

MODERN BUSINESS



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MAN



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AND FIRST EDITOR-IN-CHIEF

OF THE

MODERN BUSINESS SERIES

Budgetary Control

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PREFACE

The greatest measure of success in business has been attained not by fortuitous circumstance but through careful planning. And while planning for the future in business is not by any means a new idea, it is only when planning becomes a part of a general scientific approach to business management that it assumes a new and special aspect in the form of budgetary control. A business budget leaves no part of the business unplanned and it seeks complete co-ordination of the marketing, production, and financial activities.

The adoption of a plan of budgetary control does not necessarily imply a radical change in the customs of doing business. Generally, it means that the management has realized the necessity for an organized control over every activity. Moreover, complete control must be established without taking away that independence of action and responsibility which department heads should possess. Stating it in another way, the budget is a means of controlling the activities of each department, so that the effect of the combined forces upon the earnings of the business may reasonably be anticipated.

Budgetary control attempts to supply to the man-

agement of the large business that same grasp of all of its functions and daily operations which was possessed by the small shopkeeper or manufacturer who, from a raised platform in the back of his shop, had a bird's-eye view of everything that was going on, and who could instantly see and correct practices leading to loss. Budgetary control is therefore a tool of good business management, and it is most useful when competition is strongest and profit margins are narrowest.

Plans are but castles in the air unless subjected to a thorough analysis, and complete unity of action is necessary to carry them out. A battle has often been lost, not because the commander did not plan his campaign carefully, but because some subordinate failed to carry out that particular part of the attack assigned to him. Casualties of this kind do not occur in a business operation under a scientific plan of budgetary control, because the constant check of actual accomplishment against the planned results shows immediately whether every department is functioning properly, and, if not, allows for correction before it is too late.

The budget of itself is not a wonder-working device; as a tool, it is no more effective than the wits of those who make use of it. However, any business executive who thoroughly understands the principles of budgeting can make effective use of the budget.

Obviously, a study of the principles of business

management, especially from the executive and financial point of view, is incomplete if it does not include a consideration of the effective means of increasing profits and establishing financial control. This is emphasized by the statement following, made by Mr. Alfred P. Sloan, President of General Motors Corporation:

“The trend in modern business is more and more toward scientific control on a basis of facts. Any business, irrespective of its size, must recognize this trend if it is to cope successfully with competition in rendering a superior service to the public. In a large business the necessity is even more apparent because it is beyond the capacity of the human mind to follow the detailed ramifications unless the pertinent facts about the progress of the business are continually available in concrete form.”

In addition to his duties as Dean of the School of Commerce, Accounts and Finance, New York University, and President of the Alexander Hamilton Institute, Dean Madden is a member of the Institute's Advisory Council and Managing Director of the Institute of International Finance. Dean Madden wishes gratefully to acknowledge the assistance of two of his associates at New York University, L. E. Dewey and C. R. Rodgers, Assistant Professors of Finance, in the preparation of this volume, and to thank them for their contributions to the text.

EDITOR-IN-CHIEF.

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BUDGETARY CONTROL

CHAPTER I

MODERN BUSINESS AND THE BUDGET

1. *Budget making defined.*—The purpose of this volume is to describe the manner and method of employing a budget as one of the tools of the executive in the control and regulation of a business enterprise. Since the small business, as well as the large, may use a budget with equal advantage, it behooves every executive or owner of a business, or future executive or owner, to investigate and ascertain how he may apply to his own concern methods which have been found to be of such utility to others.

The budget idea in its broad principles is generally understood by most business men, but it is astonishing to find how many have failed to apply the plan in a scientific manner to their own problems. The primary purpose of every business organization is profit making. For this purpose, a well-managed business will use the machinery best adapted to the purpose of producing goods or services most economically; it will employ the most capable workmen; it will utilize the best methods of distribution. In addition, time

and money will be spent on research or in experimentation to discover improved methods or technique, although direct financial results from such expenditures may not be secured immediately. Budget making, in simple terms, is a scientific attempt in profit making—that is, research applied to the profit factor.

2. *Relation of competition to failure.*—The statistics of failure although depressing are enlightening, for we find that more than 21,000 business concerns discontinue operations each year in the United States and Canada for this reason. This heavy business mortality is more plainly revealed by statistics which show the average length of life of the several types of enterprises. The average life of a retail concern is 7.1 years, while the wholesaler and manufacturer survive 7.5 and 7 years, respectively.

The losses which are sustained in business failures must in the last analysis fall upon either the creditor or owner or both. On the other hand, the purchaser of the goods or services sold by such undertakings has enjoyed advantages for less than the cost to produce them. Thus there has resulted an invisible but, nevertheless, effective shifting of wealth from one group in society to another; that is, from the producing group to the consuming group. Labor, in many cases, also has suffered because the less prosperous undertakings do not usually pay the highest wages. While this tremendous social loss is generally recognized, yet there are few who will maintain either the desirability or the necessity for this condition. In

part at least, the loss is a by-product of competition although, paradoxically, not caused by it. While there will always exist more or less "cut-throat" competition, yet modern competition, instead of resting wholly upon the price factor, rather demands that the manufacturer shall build more or better material, more labor and more overhead into his product. Although the causes of failure may be classified under many headings, they will invariably lead back to the door of management. The competition of the present era differs, therefore, in many respects from that formerly encountered and it will be profitable to consider more in detail some of the new factors.

3. *Overcapacity in industry.*—Both before the World War, as well as during that period, the great problem of industry was "production." Engineering science solved this problem so well that the end of the war found us with a substantial excess of productive capacity. In the United States, the Federal government, one of the largest purchasers, cancelled war contracts on short notice and, although some attempt was made to compensate determinable losses, many producers were left with excess plant capacity and relatively little cash, but with large inventories for which there was either no market or a market greatly limited by the economic disturbances incident to the war and its aftermath.

Moreover, to complicate the situation further, many corporations, under the stimulation of the war, entered into new ventures wholly unrelated to former

activities, and into fields that were already overcrowded under normal conditions. For example, a company manufacturing explosives entered into the production of chemicals upon a large scale; a small-arms manufacturer went into the sporting goods and hardware business, while another manufacturer in the same category began the manufacture of electrical equipment. The late comers had the advantages which flow from more modern equipment and thus added to the difficulties of their older competitors.

Economic disturbances of another character influenced specific industries. The present excess capacity of the coal industry is not only a typical case of overproduction, due to the development of new mines, but, in addition, the industry lost much of its former market. Strikes by labor and a constant succession of price advances so harassed consumers of bituminous coal that they either purchased oil burners or otherwise exercised the power of substitution, until today, the state of Illinois can supply the demand of the entire United States for this product. Other examples of this nature might be cited.

At the present time, reliable estimates place the manufacturing capacity of the nation at 40 per cent in excess of the average normal demand. Figure 1 graphically illustrates the increase in our manufacturing production.

It will be noted that, during the period charted, the volume of production increased almost four times

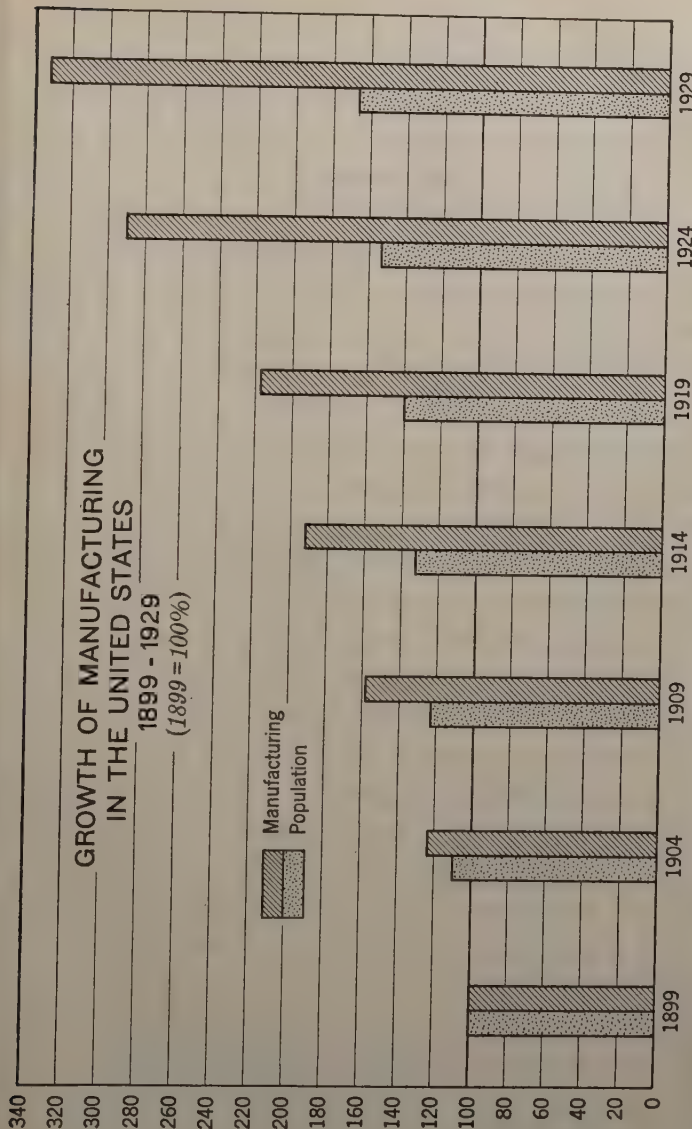


FIGURE I—CHART ILLUSTRATING THE INCREASE IN MANUFACTURING PRODUCTION IN THE UNITED STATES

as rapidly as the population. Increased exports as well as a higher standard of living absorbed a greater part of this increase, but the remainder was pressed upon the market and this resulted in a declining profit margin. Another interesting fact, namely, the divergence in the trend between production and wage earners, is revealed in Figure 1. There is a close correlation between the number of wage earners and the volume of production up to 1921, but after that date production increased much more rapidly.

Hence, we see that the emphasis had shifted, almost over night, from production to distribution. The executive was confronted with an entirely new set of conditions or forces which necessarily required new methods of attack. Advertising and sales expenses were greatly increased, labor resisted wage adjustments, and the burden was again placed upon the production factor to reduce costs.

4. *Lessons learned in 1921.*—Such was the situation in 1921, when the executive was forced to take time for reflection. The wholesaler and the retailer realized the potential losses involved in carrying large stocks of merchandise. This led to hand-to-mouth buying. In addition, it was more clearly realized that capital unnecessarily tied up in inventories resulted in loss through interest costs. Financing expansion wholly by bank loans was found to be highly dangerous, although this well-known business principle had been overlooked too often during the period of ex-

pansion. The need for better economic information was clearly revealed. A better system of executive control became imperative.

The series of events which took place from 1921 on, clearly portray the characteristic willingness of the American business executive to break with tradition and try new methods. Since the war, our peaks of industrial production have been four in number, viz., 1920, 1923, 1926 and 1929. The valleys of depression occurred in 1921, 1924, 1927 and 1930. In no period of our commercial history have we so well managed our economic craft as in the decade just closing. Expansion was checked before it developed excessively, while the evils of depression were greatly mitigated by sound preparation in advance. This does not mean that the process was automatic. In fact, there is greater need than ever for qualified manpower at the helm; greater necessity for scientific research and planning. New problems will present themselves for solution in the future and old problems will appear in different form. The preparation of a budget merely serves to bring into active consideration all of the fundamental principles and factors that condition successful business results. No single act of the executives during the whole year is more important than the preparation and development of a scientific budget.

5. *Size of the modern business unit.*—In meeting the problems created by competition, a solution was sought in mergers, both in production units as well

as in distribution units. In some cases, competitors were bought up without regard to cost. In other instances, individual units were hastily stacked together in a combination which bore all the earmarks of a stock-jobbing scheme. Consolidations of this type must sooner or later yield to inexorable economic laws.

Mergers, whether horizontal, vertical, or circular in type have their legitimate place in modern economy. Properly organized and controlled, they may serve a useful purpose in reducing costs of production and distribution. Society no longer fears mere size nor even monopoly, because new forms of social control—such as the regulation of public utilities—can be devised to protect the public against unjust prices. In fact, mergers carry within themselves the germs of their own destruction. There is a point at which the increased cost of overhead and management will reduce the profits of the large unit and turn the scales in favor of the smaller unit.

Moreover, the successful management of a merger company requires executives of extraordinary capacity. Such executives are not easily found. Mistakes in judgment are more costly, if made, and the maintenance of favorable relations with the public adds to the difficulties of the executive. The consumer, after all, controls either by withholding patronage, or using substitute products, or enacting drastic legislation, and, since the war, he has discovered his power and on occasions has not hesitated

to employ it. Hence, mergers are not necessarily the remedy for the ills of competition, for other problems are created which may be more difficult to solve.

6. *Factors determined by analysis.*—Reference has been made to research and experimentation. The profit problem of business is preëminently one of research, and it is quite as important as the various forms of scientific research which business everywhere is now carrying on in the laboratory. Research is a systematic investigation or a studious inquiry into some phenomenon or series of phenomena by the experimental method.

Applied to the profit problem in business, research means that the following factors must be determined by scientific analysis:

- (a) The minimum profit which the owners of the business desire to secure, taking into consideration the capital invested and the risks involved
- (b) The volume of sales, either of product or service, both in quantity and money, which may reasonably be anticipated in view of all conditions which affect the industry
- (c) The prime cost of producing the quantity determined upon, which involves in turn a study of material, labor, and overhead costs of production
- (d) What it will cost to distribute or market the goods when produced, and the cost of administration
- (e) A determination of the financial resources in hand and available to carry out the above program

and the additional financing required, if any, and how it may be secured

(f) The determination of a fiscal period and its subdivisions during which the program is to be carried out

To one not familiar with budget planning this appears to be a formidable task and, in some cases, it may be—but it will often be found that the difficulties are more apparent than real. At any rate, we are not yet at the point where it can be determined whether or not a budget is practicable for an individual business. Research means going to the bottom of things, and we have just begun our study.

7. *Studies in cost analysis.*—Today, it is rare, indeed, to find any substantial business venture that does not have a good system of bookkeeping in operation. Such progress has been made in record keeping, aided by various mechanical devices, that even a small business possesses a cash register and other means of keeping financial accounts. Manufacturing organizations will have some form of cost finding. The necessity of making out an income tax return each year did more to aid in the establishment of adequate records than a decade of preaching on their use and advantage.

Cost accounting marked the next step in the application of the scientific method to business records. The first results were often crude and unsatisfactory, but at least a beginning had been made in the right

direction. In costing, the executives found a yardstick by which men, materials, machines, and processes could be measured, and the more progressive executives substituted the facts of cost for guesses as to cost. So well did the cost system work, that its influence extended, and other types of analysis, such as market analysis, product analysis, and job analysis were promptly developed and showed gratifying returns for the effort and expense involved.

From the standpoint of modern business, historical costs had one great weakness. They were interesting for the light they threw upon what had taken place, but they shed no light directly upon future costs, and business history has a habit of not repeating itself. The next step in the process was the development of standard costs which may be defined as controlled costs, that is, average costs established after a study of past results but with proper adjustments for changed conditions or new factors. This was a logical step from the calculation of what an article should cost in the present to the calculation of what it should cost in the near future.

The transition from one set of costs to the other is not as simple as it would appear on the surface. In the first place, the estimated future costs, which we will designate as budget costs, are more important because they are relied upon in planning the future course of business operations. A variation of actual costs from standard costs involved an investigation into the cause and, generally, a relatively simple ad-

justment, but a variation of actual costs from budget costs might involve a complete change in business plans. In the second place, a higher degree of accuracy is required in the preparation of budget costs because of their greater importance. Finally, while standard costs applied solely to the production department, budget costs were concerned with all operations of the business.

In most cases, it is a comparatively easy matter to adjust historical costs to present conditions or standard costs, but a more serious problem is generally confronted when budget costs are involved, since these are dependent upon future conditions which must be foreseen with a considerable degree of accuracy. This in turn means that dependence must be placed on business forecasting, i.e., looking to the future. While a more detailed discussion of this factor will be found in later chapters, it should be noted here that the present development of budgeting would not have been reached if business forecasting had not been concurrently developed.

8. *Early origin of budgets.*—The word “budget” with its connotation suggesting elaborate machinery for the financial control of large business enterprises is, like many other things, of lowly, albeit romantic, origin. It is traced back to medieval France, to those bands of strolling players known as “troubadours.” It was their custom to intrust the funds of the entire company to the care of one player who kept them in a leather bag designated in French as a

bougette. Thus, the custodian came to be known as the budgeter. History is silent as to his success, but, doubtless, he was not the most popular member of the band when it became necessary to retrench because of poor business through the countryside.

But, while the term dates back only to medieval France, the spirit of budgeting probably dates back to the beginning of history. Both the Babylonians and the Egyptians employed systems of control over grain as well as money, that possessed many of the elements of modern budget practice. Joseph, in Egypt, budgeted the wheat crop and provided for the years of famine that followed the years of plenty. The Romans based their system of tax gathering upon a fairly accurate system of estimating the "ability to pay" of the conquered communities. However, it is probably true that the church has used the budget principle for a longer period of time than even governments, and, while the church has ways not available to business men of making the income match the outgo, it still has the problem of coördinating and managing the two.

The modern budget, unlike the budget of the ballad singers of another day, is not concerned solely with control of the purse strings. It is just as much concerned with income as with outgo, in fact, more so. It is the tool which business has fashioned to serve in the never-ceasing contest with competition, and in the more successful management of large-scale enterprise.

While the budget principle works equally well with small- and large-scale units, it is almost a prerequisite in the case of medium- and large-scale business. In organizations of the latter types, management faces the great problem of coördination of effort and the control of men and projects. It is obvious that no individual can hope to exercise effective control of huge aggregations of capital and labor without some artificial aids. The budget is one of the most valuable of these devices.

Apart from the problems created by size, however, there is another development in business which necessitates the use of a budget. On the one hand, we find the need of specialization, or the functional type of organization, while on the other, there is the equally insistent requirement of rigid coöperation and coördination of effort. The most effective integrating force yet devised is the budget which, if properly organized, forces these specialists to realize that they are in the business army as privates and not as generals. The disciplinary effect which the realization of this fact produces is most salutary, because it results in a proper perspective of the business as a whole and an understanding of the essential interdependence of the several departments or functions of the business.

9. *Advantages of budgeting.*—From the discussion thus far, we have seen that the one changeless law of business is the law of constant change. Each day sees a new economic era. During the past dec-

ade, the rapidity of events has exceeded that of any previous similar period. Business organization logically tends to larger units, and, following the organization of society itself, becomes increasingly complex. A higher type of qualified man power is required, and this must be supplemented by artificial aids which enable the executive or the owner of a business to exercise more effective control and promote coördination.

Improved methods of general accounting paved the way for scientific cost finding which, in turn, provides the foundation for a program of budgetary control. The preparation of a budget requires a high order of scientific research, if its aims and purposes are to be realized. The preparation of the budget affords a means of reconciling the apparent incompatibles of specialization or functional organization and coördination. We may now summarize some of the advantages of budgeting, as follows:

- (a) Gives new vision by presenting business as a whole
- (b) Coördinates effort by formulating a unified plan
- (c) Reduces expenses by instituting *automatic* expense control
- (d) Increases profits by showing weak spots *in advance*
- (e) Provides proper emphasis on the financial element in all transactions

- (f) Tends to reduce the effect of the business cycle by foresight
- (g) Removes the principal incentive for cut-throat competition, since production is planned in advance and controlled
- (h) Makes profit a definite part of the financial plan by providing for it in advance
- (i) Simplifies the financial control
- (j) Permits centralized financial control in large organizations with decentralized operations

REVIEW

Define budget making.

Discuss the broad problems of modern business.

In connection with the profit problem in business, what factors must be determined by scientific analysis?

List some of the advantages of budgeting a business.

NOTE: The review questions throughout this volume are for the personal convenience of the reader in testing his understanding of the chapter. It is not necessary or desirable for subscribers to submit written answers to the Institute except in a case where they may feel uncertain as to their grasp of the question under consideration.

CHAPTER II

MAJOR ELEMENTS IN BUDGETING

1. *The executive's program.*—Since the executive has assumed the responsibility of managing the business venture, he must develop a plan to be followed or an objective to be reached within a definite period of time. His first step then will be the determination of the time or period to be covered by the program. His second step will be that of ascertaining the total quantity of goods or services to be sold during the periods, the prices to be realized, and when the product will be sold. With this as a basis, he may then calculate the total income to be enjoyed and the dates when such income will be realized in cash.

The third step will be the determination of the quantities to be manufactured to meet the anticipated sales and the time when the goods must be produced for delivery. When these data have been tabulated, the executive will be in a position to estimate the cost of materials, labor, overhead, and permanent equipment that must be purchased, as well as the time when the same must be paid for in cash. He will then be able to determine the amount of profit to be realized, as well as the approximate dates of realization. He will have, also, the details for the

construction of a cash account for the period. And, finally, he will be in possession of the data necessary to construct a financial statement of his position at the end of the predetermined period together with a tentative profit and loss statement which will link together the actual current financial position with the anticipated financial statement at the end of the period.

2. *Budgetary control not a system.*—A budget is, therefore, a mechanism or a tool which enables the executive to ascertain the facts set forth in the preceding paragraph. At the outset, it is obvious that the plan will not be a ready-made device, but, on the contrary, it must be custom-made, and designed to fit the particular business. For convenience, it may be well at this point to differentiate terms.

The budget is not a system but rather an estimate based on careful analysis of what a particular factor of the business may reasonably expect to accomplish under existing conditions. Budgeting, therefore, has to do with the actual technique of preparing the estimates. Budgetary control has to do with the executive aspect of budgeting. Stated in other words, the success of budgetary control is due to the use of the budget and not to the budget. The budget is not self-executing. It is simply one of the tools to be used intelligently by the executive.

3. *Budgetary control and planning.*—Budgeting should not be confused with the mere appropriation of money for a specific purpose, since it includes not

only the allotment of money, but also of man power, materials, and time. Nor should it be confused with planning, for it goes much further, involving the co-ordination of plans into a program that is subject to periodical checking and possible revision. The budget derives its greatest value from this feature of co-ordination.

Thus, while the budgeting principle is inherent in all planning, experience shows that, unless the plans or estimates are coördinated, they are likely to be little more than rough guesses. It is the provision for subsequent check-up and comparison afforded by the budget that transfers the estimates from the classification of informal guesses to scientific hypotheses.

4. *The budget is more than a forecast.*—Budgeting infers that forecasts of sales and of the receipts from sales must be made, and it is this fact, perhaps more than any other, that has retarded the adoption of budget programs. Many business men are unwilling to base operations on predictions. Nevertheless, budgeting must depend upon forecasts, and the minor executives, who are charged with the responsibility of making the preliminary estimates upon which the final decisions are based, should have the aid of everything that science has discovered in the field of business forecasting.

Budgeting is sometimes confused with forecasting, because of the necessity of projecting into the future, and because of the importance of forecasting in making estimates of future volume, prices, and costs.

Others make the mistake of considering a budget as simply an estimated statement of future income and operating expenses, whereas a fundamental element of any budget is that which sets forth the probable financial position of the organization at the end of the budget period. The financial forecast is an integral and valuable part of the budget, but it is one factor only and not the entire budget.

5. *Purpose of the business forecast.*—In order that the management may contend with future conditions intelligently, some idea must be had as to what that future will bring. This is the contribution of the business forecast which is accepted as the budget base, and it represents a consensus of the best informed opinion as to what the future has in store for the organization.

The business forecast is necessarily based on the estimates of many executives in order to secure their best efforts in making good their predictions. The relation between effort and result is so close that the percentage of accuracy is greatly increased. To the uninitiated, the accuracy of these business forecasts, when properly made, is positively amazing. In many cases, a realization of 95 per cent of the budget estimates is attained.

The forecast also serves another valuable purpose. The foreman who is required to make an estimate of his departmental expenses for the ensuing period, with the full knowledge that he will be held to it, immediately grasps a new conception of the problems

of the management that must make many such estimates. It starts him thinking along the right lines. As one executive expressed it:

It was tremendously interesting to see the reaction obtained from the shop man; it was fascinating to watch the change in attitude, from one of apathy or mere curiosity to an active interest in the financial management of their departments. Many of the men have learned the theories on which the departmental charges are based, and the intelligent criticism of shop accounting methods would surprise you. If an erroneous charge of \$10 slips through, you would think, to hear the wail that arises from the foreman affected, that the amount was to be deducted from his pay check.

6. *The forecast made a workable plan.*—A forecast of *general* business conditions, even when based on the best possible methods, has two weaknesses. First, it may be wrong; and, second, it may not apply at all to the business under consideration. Certain businesses move against the general trend. For example, good times have hurt the cotton textile industry, since prosperity has enabled working girls to buy silks. Even after the forecast has been adapted to the particular industry, it must be further modified to fit the individual organization.

Another weakness often found in a forecast is the tendency to make it too general. It must be made a workable plan by specific application to the various functions and departments of the business. While the total expense of the business will be of interest to the major executives, such total figures must be

broken down into many smaller units in order to locate weak spots in the organization. This may easily be done in the case of expense, since the total is derived from the smaller estimates. However, it is not always as simple a matter to analyze the sales on such a basis.

It is apparent that the sales estimate would lose 75 per cent of its value, if it were not made on a monthly basis. This may involve some difficulty. Then, again, it is necessary to know the volume of the sales that are anticipated in the several lines if the enterprise manufactures more than one product. These, too, must then be distributed over the entire period on a monthly basis. This operation, moreover, entails extra work of a highly skilled nature on the part of someone.

After these estimates have been made as carefully as possible and in the detail necessary, they must be subjected to careful executive scrutiny. This scrutiny is concerned with not only the accuracy of the various estimates, but also with their relationship to one another.

To demonstrate the necessity of this last step, let us suppose that the production department planned a program of such a character that the amount of cash coming into the treasury would not equal the amount of cash going out. Ordinarily, such a situation would be met by borrowing from a bank or by issuing securities. But, if these avenues were closed to the treasurer because of previous financing of a like nature,

or for any other cause, the result would be overextension and financial embarrassment, and, in some cases, even failure. There is a fairly definite limit, that varies with different lines, to the amount of business that can be done on each dollar of invested capital. The executive must keep the budget within the zone of financial safety.

The necessity of simplicity in the conversion of these estimates into a workable plan should be stressed. If possible, every figure in the plan should be a significant or symptomatic one. Useless numbers and detail not only add to the expense of operating the budget, the primary object of which is economy, but are likely to obscure or at least overshadow the important ones. The old saying of being unable to see the forest for the trees must ever be kept in mind when budget plans are being formulated.

7. *Coördination of all departments in execution of budget plans.*—If the foregoing constitute the entire budget procedure, results would be interesting but of little practical value. It is not the function of the budget to stand as a monument to the forecasting ability of the executives. It is, on the contrary, a definite all-year business program.

In order that the budget be of real service, there must be a continuous driving force behind it. Someone must see to it that the various phases of the business are tied together by the budget in the execution of a unified, workable program. The entire busi-

ness must get behind it and stay behind it, or it will fall short of its full possibilities. If the budget means anything at all, it infers control, and this applies to all phases of the enterprise.

8. *Definite standards and goals.*—The definite standards and goals that are set up in the budget must be kept at all times before the executives responsible for making them. The practice of establishing figures too high for attainment, which some concerns follow, is not wise. Contrary to common belief, it is better to exceed the estimated business to be done than to fall short of it. The former gives self-satisfaction, while the latter tends to result in discouragement. The standard set must be reasonable, and the goals must be attainable. If such is the case, the moral and psychological value of keeping them constantly before the executives is remarkable. Graphs, ratios, and definite reports should all be used in keeping them in step with each other.

9. *Flexibility necessary.*—Flexibility is a necessary element in any budget. The future can be forecast, but always with a qualification that unforeseen factors may intrude and must be allowed for. The World War certainly could not have been foreseen in the fall of 1913, when plans for 1914 were being made. The Mississippi flood or other events of similar character cannot be foreseen by the business forecaster. He is a statistician, not a prophet or clairvoyant. Other conditions that the individual business man cannot foresee or control also arise,

such as new inventions, changes in style, new competition, legal enactments, and so on.

Cases arise where, due to the nature of the business, it is impossible to forecast for the period of a year. The railroads have been unsuccessful in forecasting traffic requirements for more than three months ahead. Particularly has this been true where the road relied on one commodity, such as wheat in the case of the granger roads.

Still other lines of business find it impossible to forecast, with any degree of accuracy, certain parts of their business, while other elements may be foretold with reasonable certainty. The fishing industry is an example. The expense side can be estimated, but, due to the vagaries of the weather, the habits of the fish, and unstable prices, the income cannot be forecast so accurately.

Nevertheless, conditions of this nature do not furnish a sufficient reason for not adopting a budget plan, because the more widely business fluctuates, the greater the need of sound planning, or at least as accurate planning as may be devised. Some executives attempt to get around these difficulties by budgeting only the stable phases of the business. This, of course, is not budgetary control. A better scheme, and one that is widely used, is the adoption of two budgets—one, the general budget running for a year; the other, the operating budget covering that part of the immediate future that can be more accurately foretold.

No matter what method is used, the budget must be left flexible so that revision may be made when needed. Provision must be made in any business plan to meet such changed conditions when and as they materialize. It must be kept a live, vital organism.

10. *Comparison of actual performances and estimates.*—Since the budget itself is a mapped plan for future progress, means must be provided for bringing the business ship back to its course when it veers because of either internal or external causes. The actual performance must be compared with the estimates continually. Any serious difference will necessitate immediate steps in order to preserve the intended coördination of activities.

A committee is usually charged with the responsibility of reviewing the actual results and comparing them with those expected, as given in the budget. This committee is particularly interested in the internal deviations from the budget standards. Those responsible are called on for explanations, and whether the departure has been justified or not is decided by them. In any case, a revision or adjustment must be made in the budget standards and totals. It is at this point that the management gets a measure of the ability of the executives responsible for operations. It is here that waste and inefficiency show up.

11. *Reduction of waste.*—Waste cannot be completely eliminated from business—it is inherent in all

human effort. It can, however, be substantially reduced. The real problem in waste is to locate the cause and identify the responsibility for it, whether it be a process, a method, a laborer, or an executive. Certain forms of waste are prevented outright by the budget, and, of course, prevention is better than salvage.

The three main sources of waste within the enterprise—wasted materials, idle time (of machines as well as men), and excess inventories—are reduced materially by the budget because it provides for better coördination of activities. These and other controllable wastes not stopped at the source show up when the actual performance is compared with the estimates and when compared with similar budget costs in a similar industry.

Forms such as the one illustrated in Figure 2 are used to give the various comparisons needed. As will be noted, the estimated and actual monthly figures are shown, together with figures for the previous year. Sometimes more than one past year's figures are shown.

12. *Analysis of supposedly satisfactory conditions.*
—The reader should not get the idea that the budget is primarily concerned with morbid conditions in business. While it does exercise a negative control by preventing waste and calling attention to it when it does exist, there is another and more valuable service which the budget can be made to render. This is in connection with the analysis of supposedly sat-

Year _____ BUDGET PERFORMANCE							
	January			February			
	Last Year	Estimated	Actual	Last Year	Estimated	Actual	Last Y
Sales							
Sales Expense							
Advertising							

FIGURE 2—ACTUALS VS. ESTIMATES

isfactory conditions. As one business man put it, "If there is anything that business should guard against, it is a certain brand of complacency."

The budget, by affording a comparison of similar operations in different plants of the same company, or in different departments, or even in competing plants, turns the spotlight on such conditions so that the proper action may be taken. These conditions appear whether the budget standards are set by the management and imposed upon the operating officials, or whether the operating officials themselves make the original estimates.

The general philosophy back of the budget, that is, an appreciation of the value of self-analysis, aids in locating the things which can be improved. This

positive contribution of budgetary control is most recent, and a most important accomplishment.

13. *Elements of budget procedure summarized.*—The major elements of budgeting are:

- (a) Preparation of the original estimates on a functional or territorial basis
- (b) Consolidation of these estimates into a tentative plan
- (c) Preliminary coördination of these plans by the budget executive
- (d) Preparation of estimated profit and loss statement and estimated balance sheet
- (e) Revision of final budget on basis of estimated financial statements
- (f) Detailed execution of budget by departments
- (g) Check up on actual performance by comparison of actuals with estimates

Budgeting, as can be seen from the foregoing, does not end with the formulation of a business forecast, generally referred to as a budget. It cannot be emphasized too strongly that budgeting is a continuous and continuing process.

REVIEW

Explain why budgetary control is more than a system.

Distinguish between "budgeting" and "budgetary control."

Differentiate between "budgeting" and "forecasting."

Can budgetary control be applied to all businesses?

Explain wherein the budget aids in the reduction of waste.

Discuss the elements of budget procedure.

CHAPTER III

PREPARING THE ORGANIZATION FOR BUDGETARY CONTROL

1. *The budget must fit the organization.*—Reference has been made to the fact that the budget is a “custom-made” device designed to fit the needs of a particular business. On this account, it will not be possible to set forth definite procedures that will apply uniformly to every business. The most that may be done is to outline some of the problems for the purpose of indicating in a general way the method that should be followed in preparing for the installation of the budget.

Some executives have hesitated to establish a budget because of the impression that it involved the use of a complicated system with attendant clerical expenses. In some cases, additional expense may be unavoidable, but it will often be found that no appreciable expense will be incurred. A rearrangement of clerical duties, the introduction of a mechanical device, or the coördination of existing records may be all that is necessary. Furthermore, the increased expense may be more than offset by savings in other directions, such as a reduction in inventories or the abandonment of unprofitable lines of product. At

any rate, a careful survey on the part of the executives should be made before a decision is reached.

Other executives, while admitting the validity of the general principle, maintain that the plan cannot be applied in a practical manner to their special activities. For example, one frequent objection is that conditions in the business change so rapidly that a budget will be useless because the actual results will be meaningless. However, even though this condition prevails, an honest study may reveal the fact that the rapid changes are less significant than apparently is the case. Furthermore, fluctuations are additional reasons for budgets rather than against them. Certainly changes in trends will be more rapidly detected, and plans to meet them more quickly may be made, with consequent savings in production and distribution costs and wastes.

2. *Gaining the coöperation of departmental executives.*—The introduction of a system of budgetary control cannot be undertaken successfully unless and until every function is being performed with the budget objectives in view. This means that the minor executives in charge of the several functions or departments must coöperate intelligently in the plan, and must realize that no one department may achieve its objective independently. It will be obvious that the sales department would soon meet sales cancellations or sales resistance, if the production department failed to produce the goods in the quantity or at the time required.

How this coöperation may best be obtained must depend upon the circumstances surrounding each individual case, but it is commonly secured by calling a meeting of those who are concerned and by having the director of the budget explain clearly the problems involved. This general meeting will be supplemented by such individual conferences as local conditions may require. The need for complete coöperation must be stressed, and each individual should understand that he is not only to take an important part in carrying out the provisions of the budget but in preparing them as well. Those who are associated in a business organization are favorably affected by its prosperity and unfavorably by its declining business or profits. It is quite as important for them to know what the present course of business is and what the future prospects may be as it is for the owners or board of directors.

3. *Preliminary survey of the organization.*—A survey of the business will bring to light not only the activities which are to be separately budgeted, but it will also reveal the materials available for use and those which must be supplied. Even if the data is not as complete as would be desired, a beginning can usually be made with what is available. It is not to be expected that the results at first will be all that is desired but, as more experience is had, the results will show an improvement. The important thing is to make a beginning with the assurance that improvement will follow. It is not unusual to secure signifi-

cant results even with meager data available. On the other hand, care must be exercised to see that commitments of a substantial character are not made upon inadequate information. The statement that a poor budget is better than none is probably not true.

4. *Survey of personnel.*—Salaries and wages often constitute one of the largest items of expenditure in production. Every department head should be asked to make a full report that will show the number of employees under his supervision, the salaries or wages paid to each, or to each group where the same wage scale is in effect. If commission, piecework, or bonus plans of compensation are in effect, full details should be supplied. In many cases, the aid of the accounting or personnel department may be enlisted to good purpose in this cause.

In one bank, where such a preliminary survey was made, the new budget director took pains to see that each department head was furnished with past data so that he might make his present report comparative in form. Since the past data was furnished in columnar form with columns provided for additional information, this had the effect of bringing the requested information to the budget director in the form best suited to the purpose at hand.

5. *Functional survey.*—At the same time as this information is being prepared, space in the reports should be devoted to a full and detailed statement of the work and functions performed by each department. The nature of the task performed by each

employee or group of employees listed should be stated, also the time taken to perform each task, if reducible to definite time standards, and the frequency with which such tasks must be performed. To illustrate, there may be a task which occurs only once or twice during a definite period while others may be continuous operations.

Where cost records are kept by the accounting department, this department, and not the shop foreman, should be called upon to furnish all of the information relative to shop costs, and such information may then be sent to the production manager, or other executive in charge of manufacturing, for checking and additional information.

6. *Survey of planning procedure.*—Undoubtedly, some effort will have been made previously by certain departments to plan their operations. Since budgeting begins with planning certain objectives, the experiences of all who have had a part in making plans for their own departments will be valuable, when plans are being worked out, not only for each department but for the business as a whole. The sales manager, for example, may be employing a method of forecasting sales, and, even where no careful attempt has been made previously to forecast sales, there may still be found estimates that have been used as a basis for setting salesmen's quotas or in working out compensation plans for salesmen. Such information will help, with perhaps slight changes, to make the first sales forecast for budget purposes.

In the production department, methods of planning and scheduling production to meet sales demands should be detailed. Because of the emphasis in recent years in production efficiency, it may develop that the existing method will need only a more accurate sales forecast to serve as a basis for the new budget. In this connection, it is necessary to survey space used or available for finished product and raw material storage with full information as to past policy in building up finished goods stocks and in the purchasing of raw materials.

7. *Survey of records.*—Past records, intelligently modified by taking into account seasonal or other variations or unusual and temporary conditions, form the basis of budget estimates. Hence, proper records are imperative, if the control function of budgeting is to be exercised. The survey will not be complete unless the most careful attention is paid to this function. The study should reveal not only the records that are being kept in the accounting and other departments, but also the nature and character of records that will be required.

A discussion of the essentials of a good cost accounting system is not properly a part of the subject presented here, but a cost system should be provided that will disclose:

- (a) The unit cost of the several elements that enter into manufactured cost (materials, labor, and manufacturing expense) of a fin-

ished article, of each part, and of each operation on each part

- (b) Perpetual or book inventories of material and supplies, goods in process, and finished goods, thus enabling the management to secure timely financial statements
- (c) Means by which it may be ascertained what products are unprofitable, in order to determine whether to continue manufacture or not
- (d) Comparative records of costs of articles made at different times, or by different methods of manufacture, or under different conditions
- (e) Opportunities for cost reduction, either in materials or labor or overhead
- (f) Data necessary for intelligent pricing. A check should be made on the type of information being furnished to department heads, the timeliness of this information, and the use the recipient makes of it. Constructive criticism of cost records or other reports should be invited.

8. *The separation of functions.*—One of the first active steps in the installation of a budget is the separation of functions and the allocation of responsibility for each function. In many cases, the same task is being performed by different departments where it might better be carried on by one department with definite responsibility for it. It should be

remembered, that in the future each department head will be asked to submit his own budget, and, after it has been coördinated with the budgets of the other departments and adopted as a part of the master budget, he will be responsible for results. Obviously, then, each man's responsibility must be fixed.

One advantage of the survey is that it often brings to light, at the outset, waste in the form of duplication of effort. Instead of the same task being performed once for the benefit of all departments, it is not unusual to find that each department is doing it for itself. Duplication of records is not uncommon, where one set could be kept for the benefit of all.

Often one executive may have the direction of a great variety of activities in a business. This is particularly true of a small business. Even minor employees may be performing tasks which may involve two functions. There is nothing wrong with such a procedure, if care is used in distinguishing between such functions in budget estimates. From the data supplied by department heads, an organization chart should be constructed similar to the one shown in Figure 3. This chart is more useful, if the names of the functional executives are placed in the proper order in the chart. Later, the chart may be broken down and separate charts prepared for each department, if this serves a useful purpose.

9. *Establishing the responsibility of department heads for budgets.*—In an address before the members of a trade association, where the subject of budg-

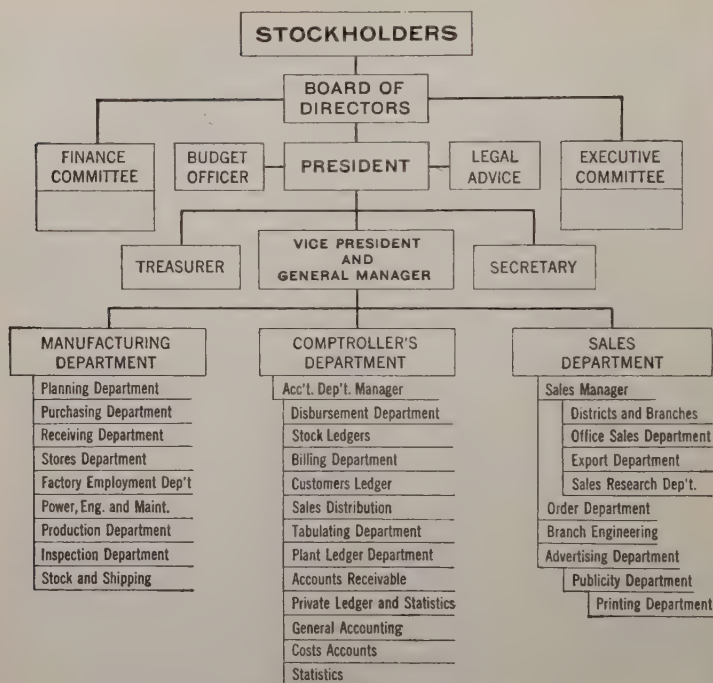


FIGURE 3—CHART OF TYPICAL MANUFACTURING ORGANIZATION

etary control was under discussion, a well-known executive said:

We let each department manager write his own ticket, then we know he will try to live up to it; in other words, a departmental budget is not made for the department head—he makes it. He estimates what he expects to do and his estimates become part of the master budget of the organization. It is quite true that his estimates may need revision when in the process of being coördinated with the estimates of other departments, but revisions are not made until he has had

an opportunity to defend his estimates, and until he thoroughly understands the necessity thereof.

The best budgetary practice calls for estimates from each department head as to the performance and expenses of his department for the ensuing budget period. In the case of annual budgets, such estimates are often prepared as early as October or November so that ample time may be had for revision and for returning the final budget prior to January 1. In some cases, budgets are prepared monthly for the next month following, and sometimes quarterly. Frequently, the practice exists of always keeping a budget a year in advance by adding a month as one is dropped. More will be said as to the proper budget period in a subsequent chapter.

Regardless of the period of time, however, the point is that, if a departmental head prepares his own estimates, he will work hard to achieve the goal he has set for himself. He will not overstate these estimates, for then he will not be able to accomplish them, and, on the other hand, he will not understate them because, in the periodical analysis of the activities of his department, he will wish to show that he is accomplishing the maximum.

Sales managers have long known that one of the best incentives to a salesman is the attempt to better a quota which he set for himself. The same holds true in budget making, and, hence, every department head should prepare his own budget, and should be held strictly accountable for variations. There will

be times when performance will fall below estimates and expenses will exceed estimates. It may be that these events could not have been foreseen, but the assumption is that they should have been foreseen and adequate explanations should always be insisted upon for any deviation.

10. *Who is to have authority for budgets?*—In many organizations, a special officer known as the “budget director” has been appointed, and often-times he is designated as “assistant to the president,” on the theory that the president is the final authority and the budget director is merely representing him. This idea was embodied in the Budget and Accounting Act establishing the budget for the United States Government, where it is stated: “There shall be in the Bureau a Director and an Assistant Director, who shall be appointed by the President. . . . The Bureau, under such rules and regulations as the President may prescribe, shall prepare for him the Budget. . . .”

In response to a request of the United States Chamber of Commerce for information as to the title or office of those responsible for budget activities, twenty-two representative manufacturing organizations reported the following tabulation:

1. Budget and Expense Committee (vice-president, chairman)
2. Treasurer
3. General Auditor

4. Budget Committee (president, chairman)
5. Vice-President
6. The Executive Committee
7. Comptroller
8. Treasurer
9. Assistant to Chairman of Board of Directors
10. Vice-President, in charge of accounts
11. Assistant Treasurer
12. Auditor
13. Special Estimate Department
14. Budget Committee
15. Not centralized
16. Production Manager
17. Comptroller
18. Budget Committee (comptroller, chairman)
19. Assistant to President
20. Not centralized
21. Budget Committee
22. Comptroller and Committee

It will be seen that practice is not uniform. In the two instances where no special officer had charge, it was found that departmental budgets were submitted to the general office of the company where they were summarized for executive use. The use of a budget committee which consists of the department heads, or of all of the officers of the company acting under the authority of the president or board of directors, is a practice which is growing.

When the responsibility for the budget is to be left

in the hands of one officer, the comptroller seems to be a wise choice, since it is he who has charge of records, interdepartmental routine, and, often, the accounts. Regardless of who is appointed, it should be someone who has the confidence of department heads and who is not coördinate in authority. The committee plan finds great favor because, where department heads form the committee, revisions and disputed points can be argued in committee, a vote taken, and everyone concerned will have had a part in the result. Once the committee has decided on any matter, it is immaterial which officer has the duty of carrying out their directions.

The problem of coördination which exists in tremendously large organizations with subsidiaries all over the United States and Canada usually requires the creation of a budget department. In one nationwide organization, this department functions as a division of the treasurer's department, and the treasurer is held responsible by the board of directors for all work in connection with the budget. For convenience, we shall refer to the person or persons responsible for the coördination and enforcement of budgets as the "budget officer" although, as we have seen, such a title is not universal, and the work may be handled by a committee.

11. *Duties of the budget officer.*—While the duties of the budget officer will vary, dependent upon the type of business and the size of the organization, it may be well to discuss briefly some of the things he

may be called upon to do. He will generally initiate requests for budgets. At the time of request, he may furnish the various department heads with data showing the probable increase in business and other influential factors which might affect the estimates. One of our largest holding companies maintains a forecasting department that furnishes officers of subsidiary corporations with an analysis of general and specific factors bearing upon the business of the company to use as a guide in preparing estimates.

The budget officer may prepare statements of the expense of each department for past periods to aid the department heads in the preparation of their budgets. Each month, and, in some instances, each day, actual results may be compared with budget figures and the department heads informed of the results. The budget officer may demand explanations from department heads regarding discrepancies and may revise estimates. In practically every case, the work of coördinating and revising original estimates, bringing them in line with business policies and sometimes revising them in terms of anticipated general business conditions, will fall upon him. He must carefully check original estimates with the financial officer so that proper financial arrangements can be made.

Sometimes estimates need revision simply because the business anticipated cannot be financed. If the scheduled operations, when coördinated into an estimated statement of profit and loss, do not show the

proper return, it may be necessary to revise the whole plan in an attempt to bolster up profits. Of course, since the estimated balance sheets and profit and loss statements involve all the activities of the business, the responsibility for these falls to the budget officer, for it is through the preparation of these statements that the separate departmental budgets are coördinated into the master budget of the organization.

12. *Making use of existing records.*—Reference has been made to the fact that, in preparing the budget, records of past performances and past costs are of the highest importance. In the majority of manufacturing organizations, a cost accounting department of some description exists and cost records are obtainable. From these records, reliable detailed costs summaries for the various products can be obtained. These records also show inventory details that are to be utilized in a forecast of inventory requirements for the budget period. It would seem practically impossible to make any progress in establishing budgetary control in a diversified manufacturing organization without an adequate cost accounting system.

In other organizations, simple statistics on costs obtained from the expense accounts in the general books or maintained by department heads may be utilized. As experience in budgeting the activities of the business is gained, it will probably be found that further cost details are necessary and proper steps may be taken to compile such records. Nothing is to

be gained by changing record systems until a clear understanding of the needs has been reached. The more simple the budget procedure can be kept and still give the proper control, the more effective it is. It will be more easily understood and therefore more easily applied.

13. *Selling the whole organization on the budget.*
—An executive speaking about the budget of his organization made the following statement with regard to selling the members of his organization on the budget idea:

We have found after three years' trial of budget control work that the very first and most essential factor is to make sure that the whole organization is thoroughly sold to the idea. This is sometimes troublesome at the start, and one individual of an important department may hinder the accuracy and success of the work unless he is willing to coöperate and assist in rendering his best judgment. Once, however, the organization is fully in accord with the idea, it is surprising what can be done in this line.

This idea should be carried out to the point of having each minor employee interested in helping to see his department reach its budget objective. Everyone must be made to see that the budget helps profits and that profits help everyone in the organization. The budget makes for steady employment, for constant recognition of merit. Men working for an organization having budgetary control soon learn that the budget reflects not only their mistakes, but also their best efforts.

REVIEW

Why is it important carefully to prepare the organization before the introduction of budgetary control?

What factors are covered in the survey preliminary to the budget installation?

Does the functional organization of business affect the budget?

Discuss the duties of the budget officer.

Outline an argument to sell the rank and file of an organization on the advantages of a budget in a particular business.

CHAPTER IV

THE FORECASTING PROBLEM

1. *Practicability of business forecasts.*—Whether he is conscious of it or not, the business man continually forecasts in some fashion. During the past fifteen years, there has been a marked increase in the number of agencies that prepare economic forecasts of one kind or another for the use of business executives. Since business concerns itself with supplying the wants and desires of individuals, the difficulties involved, in predetermining what one hundred and twenty million people in the United States, for example, will want or desire, become obvious.

The business scientist cannot hope to emulate the feats of the natural scientist who, with most absolute accuracy, predicts the return of comets, the eclipse of sun and moon, the movement of the tides, and the climate. Moreover, it should be noted that one of the major elements in any forecast of an individual business is the accurate determination of its relation to other businesses. Hence, we are confronted at the outset with the question, whether it is possible to forecast with approximate accuracy the future of an individual business.

In every case, the answer depends upon a number

of factors, and one cannot always say affirmatively that the future can be foretold. But at least it can be said that no organization may safely omit preparation for the future. In countless instances, the practicability of forecasting has been amply demonstrated, so much so that no prudent business man will neglect to attack the problem scientifically. Sheer luck has played a part in the success of many business enterprises and, again, the ability to seize immediately a present opportunity has accounted for the success of others. It is not safe for any business to assume that it will thrive and prosper continuously, and the management that looks ahead the farthest achieves the greatest stability of earnings and most soundly protects the integrity of its capital investment.

2. *Use of general forecasts in a particular business.*—From experience, management has discovered that each individual business has a tendency to react in a definite way to general business conditions. In certain cases, the peaks of prosperity and the valleys of depression will coincide with a particular forecast. Thus a forecast based on the volume of industrial production prepared for the *Federal Reserve Bulletin* may exactly coincide with the fluctuations of a business that supplies equipment useful to all industries. In other instances, the fluctuations may precede or lag behind a particular forecast. It should be noted that prosperity is a matter of degree. At no time will all lines of business be prosperous, and,

vice versa, depression is not a universal phenomenon. Even in the same industry, conditions in various parts of a country will not be uniform.

Moreover, some concerns deal exclusively in staple products and, on that account, experience a greater degree of stability. It is a well-known fact, on the other hand, that some businesses increase their volume during periods of depression, such as the motion picture business, that registers greater prosperity during periods of unemployment. Special circumstances sometimes intervene that cannot be included in any forecast, such as an influenza epidemic that will greatly increase the business of the pharmaceutical industry.

Hence, in forecasting for an individual business, it is necessary to know, first, the peculiarities of the particular industry, the extent to which its operations may be correctly forecast, and the period during which such forecasts will apply. Knowledge of trends, if secured several months in advance, enables the executive to adjust the inventories, labor supply, prices, and finances, accordingly.

A study should be made of all forecasts for the purpose of determining which of those prepared by the several agencies engaged in that work most adequately suits the conditions of a particular industry. Further caution is needed, however, because competition, changes in styles or habits of consumers, new inventions, improvement in products and other factors are frequently at work in industrial life, and

a forecast that has proved accurate in the past may require adjustment or may no longer be a reliable barometer.

Our production facilities cannot be expanded overnight as they could before our processes became so complex and the scope of our operations so wide. The executive must know the trend of demand and have measurements of future supplies, not only for the things that are sold but also for the goods that are purchased. Profit margins tend to grow relatively smaller year by year, and profits must be conserved by careful planning.

3. *Accuracy in forecasting.*—Practically all forecasting has for its foundation the law of causality. This law is simply stated in "The Mathematical Theory of Probabilities," by Arne Fisher, as follows:

"Everything that happens, and everything that exists, necessarily happens or exists as the consequence of a previous state of things."

At first sight the business man seems to find in this law the answer to his forecasting problem. If what has happened today is the result of previous events, the happenings of tomorrow will be the effect of causes presently operating. Hence, it may seem easy to make an accurate forecast, because the executive has only correctly to appraise existing forces, ascertain what has happened in the past where such conditions have existed, and thus forecast their cumulative effects on his business in the future.

The results, however, are often discouraging. They are especially so, if one is expected to obtain the accuracy of the astronomer in predicting an eclipse of the sun. Unfortunately, economic forces are incapable of such exact measurement, nor does it seem possible so to appraise the forces as to determine with precision their cumulative effect. In fact, there are now far too many variables, and it is extremely doubtful if the economist can point to any event in the past which was predetermined by exactly the same forces operating today. Even if he could, there is no assurance that each force would operate as a causal factor in exactly the same degree as it did in the past. The lack of mathematical accuracy, however, discouraging as it might be to the natural scientist, need not discourage the economist or business man.

Approximations as to future events are of sufficient help to warrant every effort to obtain them. Having forecasted a probable situation, due allowance can be made for possible variations and, if the probabilities have been carefully estimated, it is more than likely that a very reasonable allowance for divergencies will suffice. Forecasts are being made daily which are 98 per cent accurate in lines that vary from automobile sales and cost estimates to sales of silk hosiery in department stores.

4. *Scope of business forecasting.*—In many cases, the forecast is limited to the predetermination of sales possibilities, and, since the purpose of business is the

sale of goods or services at a profit, it may seem that, when the forecast has produced a proper sales estimate, it has served its purpose. Every merchant and every manufacturer, however, is a purchaser of material in the finished or raw state. These goods or materials are either resold in their same condition or become part of the manufactured product. Hence, the sales forecast that has been the basis of the estimate for the purchasing officer may not necessarily determine the time element of the cost factor.

Forecasts should be made of the prices of materials, especially those which fluctuate widely from season to season. Purchasing policy may be as great a factor in the profit of a business as its sales. A thorough study of factors affecting the prices of the principal raw materials used in the business and an intelligent forecast therefrom may turn out to be a substantial source of net earnings.

Labor, too, must be purchased at varying rates and, while considerable stability has been achieved, it is a well-known fact that over a period as short as twelve months there may be significant variations. If these be properly anticipated through a forecast of conditions in the labor market, production schedules and even prices may be adjusted in time to avert loss.

If new financing is anticipated, or if the business is one which periodically enters the investment market for new funds, a forecast of conditions in the financial markets will be valuable. Where short-

term funds for working capital purposes only are required, a study of the trends in the money market as well as the trend of general business will permit arrangements with a banker to the advantage of the concern.

There is scarcely an activity of the business which may not, in some degree, be planned. A business forecast should deserve the name we give it. It should cover all the business activities and endeavor to render direct assistance to all major departments instead of serving directly the sales department and indirectly the other departments.

5. *The period of the forecast.*—In general, it may be said that the length of the period to be forecasted depends entirely upon the purpose to be served, and upon the type of business. Obviously, forecasts for a long period ahead may be impossible where conditions are so variable as to lead to great inaccuracy; and, in some cases, it is doubtful if an approximation, such as a very long-term forecast is likely to be, would be worth the trouble of working it out.

A public utility, for instance, may have need of a forecast for twenty years in advance and, indeed, some companies are today planning for the next ten or twenty years. This is necessary because of the rapid rate of growth, which in some instances is as high as ten per cent compounded. Population increases, betterment of living conditions, discovery of new uses for gas and electricity all have contributed to this rapid rate. Hydroelectric developments,

conduit building, and power-house construction must be planned and often started long in advance of anticipated needs. Obviously, such forecasts may ignore seasonal trends, since cyclical changes so far in the future cannot be given great weight. Hence, we shall refer to forecasts of normal trend for periods of more than five years as long-term forecasts.

For a shorter term, say from one to five years, the cyclical movement may, in many instances, be anticipated, and, for that reason, a somewhat different procedure obtains in the preparation of forecasts. Effect is given in such forecasts to the normal growth trend as is done in forecasts for the longer period, but, since in any one year the effect of cyclical changes may possibly be far greater than the effect of normal growth, the former becomes the more important factor. We shall refer, therefore, to a forecast of from one to five years as a cyclical forecast.

In the preparation of an operating budget, approximations are not sufficient and a high degree of accuracy is required. Fortunately, conditions nearer at hand are more readily discerned and greater accuracy may be secured. The period may vary from three months to a year. In a great many cases, a forecast is prepared to cover twelve months, but for the smaller business, where commitments for raw materials are made six months ahead, a budget of from six months to a year probably represents the shortest

period for which a useful forecast can be made. In many large corporations, where sources of raw material are controlled, a three months forecast may serve the purpose. In some organizations, an operating forecast for a longer period than three months is not possible because of severe and unforeseeable market fluctuations or other variable external conditions.

The short-term or operating forecast is more popular than the longer term forecasts. The short-term forecast is built upon the cyclical trend as is the medium-term forecast previously discussed, but it depends also upon the additional factors of seasonal variation and psychological trends in consumer demand. Seasonal variations can be ignored where the forecast involves more than one year, for the forecast concerns itself with yearly totals. In the operating forecast, seasonal variations and immediate factors affecting consumer demand are of tremendous importance.

We have then to consider the preparation of three types of forecasts. Long-term, or forecasts for periods longer than five years; cyclical forecasts, which are for periods from one to five years in duration; and the short-term or operating forecast which is from three months to a year in duration.

It is not implied that all concerns need or should attempt to forecast more than a year in advance, nor that a forecast of more than five years should be made. Where, however, a long-term forecast is made, we will find all three types of forecast employed. The

classification is arbitrary and the nomenclature unimportant. The classification is necessary, however, in order properly to present the need for such forecasts and the procedure to be followed in making them. Different methods are followed in making forecasts for different periods of time and this classification roughly marks off the points at which procedure must be modified.

6. *The preparation of long-term forecasts.*—In the preparation of forecasts for periods of over five years, chief reliance must be placed upon definite trends that have developed over years of past experience. Allowance should be made, of course, for present tendencies which are clearly recognizable, but, since it is the long-term effect of all such tendencies which is desired, usually the best that can be done is to make due allowance for the possible effect of present tendencies, rather than to try to evaluate them until experience has shown how they may effect the general trend.

The first step in the preparation of a long-term forecast is a careful analysis of past figures. As a rule, all forecasts can be made in terms of sales. For instance, if it be plant capacity which is to be provided for, an estimate can be made of the number of square feet required per dollar of sales or per unit of product. Cost per square foot of floor space of necessary construction can then be used as the basis for future financial requirements. As a general rule, it is best to obtain past statistics in terms of the number of

units produced, for instance, ten thousand automobiles, or one hundred tons of castings. Past sales volume in dollars is likely to be misleading, for prices vary from year to year with changes in the purchasing power of the dollar.

If, however, only dollar figures are obtainable, they may be adjusted to a comparable basis through the simple process of dividing the total sales in dollars for each year by the price index for that year. Price index figures for every year are prepared by the United States Department of Labor for class indexes and a general index for all commodities. Where possible, a class index rather than the general index should be used and class indexes are available for a great variety of products such as cloths and clothing, metals and metal products, farm products and others.

While past figures will often show a decidedly irregular tendency, still, when carefully studied, it will usually be found that a definite rate of progression or retrogression is present. This rate may take one of two forms, arithmetical or geometrical. A rate of increase or decrease of a definite and unvarying quantity each year, say 2,500 tons per year, is arithmetical and, if plotted, would permit a straight line to be drawn connecting the points. A geometrical rate of increase or decrease is one which shows a change each year of a definite and unvarying ratio on the basis of the previous year. If these figures for a number of years were plotted on graph

paper, the result would be a curved line, for the change, being the same percentage on a constantly increasing amount, is more rapid than an arithmetical rate. Such a line may be straightened out by plotting the graph on semi-logarithmic graph paper.

At best, the making of a long-term forecast is little more than establishing the present rate of growth and extending this rate into the future for the desired number of years. A convenient method is to plot the figures for the past ten or twenty years on graph paper, the number of years being marked off along the base while the units of sales volume are indicated along the vertical line. After the points are plotted, they are connected by a line which will show the average rate of growth.

If the resulting line is a curved one, as indicated in Figure 4, it is customary to repeat it on semi-logarithmic paper so that the line is straightened out to facilitate projection. This has been done in Figure 5, and the line projected into the future.

This line may be extended to any point in the future and the estimates for that year thus ascertained. Mathematical averages may be obtained for an arithmetic rate by use of the "method of least squares," which is described in practically any book on business statistics. Corresponding methods have also been used for arriving at the percentage rate of increase by mathematical computation.

The task is more difficult where such great irregu-

larity exists as to make this method of procedure impossible. But in businesses of such great irregularity, long-term forecasts are impractical because of the existence of outside conditions causing the irregularity. Forecasts are, of course, to be varied by the operating policies of the company and, for example, a decision such as that of the American Telephone and Telegraph Company gradually to replace hand-switching devices with the automatic machine switching of the dial system would cause a revision of figures based solely upon normal growth.

For a business lacking sufficient past data upon which to build a forecast, the published figures of the United States Department of Commerce, such as are found in the *Commerce Yearbook* or *Survey of Current Business*, and the *Canada Yearbook* may provide the material for building a trend of normal growth, particularly if the average for the industry approximates the rate which will apply to an individual business in the industry.

7. *Forecasting to the business cycle.*—It is now admitted almost universally that plant additions and betterments should be made during periods of depression. Unfortunately, too many organizations have followed the practice of hand-to-mouth building and have summoned the architect only when their facilities proved inadequate to take care of incoming business. It will be obvious, that plant additions may be made more cheaply and with less disturbance to regular operations during periods of depression. The

GRAPH OF PAST SALES (Geometric Increase)

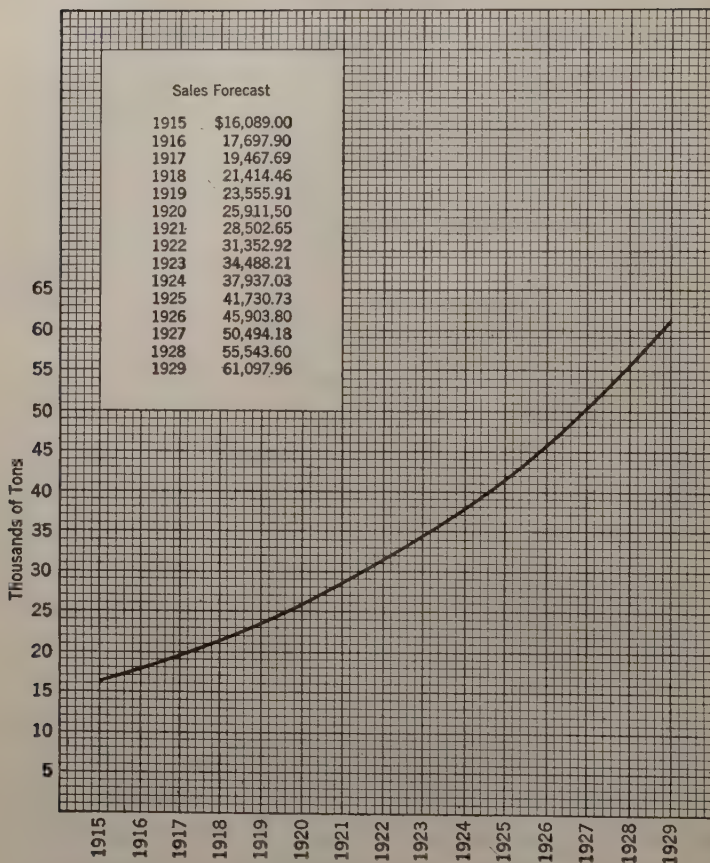


FIGURE 4—CHART OF GEOMETRICAL RATE OF VARIATION

long-time forecast is an aid in determining when to plan for such operations.

Where building plans are started only when demand exceeds capacity, there is great danger of

GRAPH OF PAST SALES
(Same data on Semi-Logarithmic Paper)

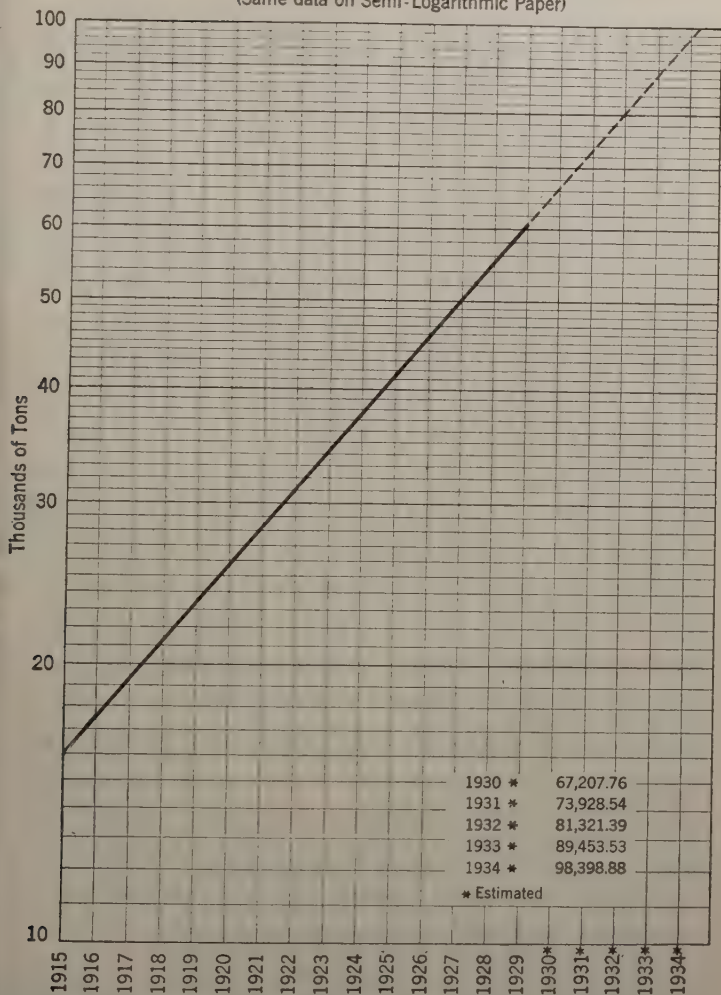


FIGURE 5—LINE IN FIGURE 4 CHARTED ON SEMI-LOGARITHMIC PAPER SO THAT IT IS STRAIGHTENED OUT TO FACILITATE PROJECTION

overbuilding. The sudden increase in orders may prove to be but a temporary bulge that quickly subsides only to leave the business with too much plant capacity accompanied by attendant overhead costs.

A forecast of from one to five years, which we have designated as the cyclical forecast, is in a sense a forecast of the movements of the business cycle. Beginning with the established trend developed through studies and forecasts of normal growth, the five-year forecast is modified by predetermined business policy and, according to the curves of the business cycle, ascertained through careful study.

Business in the past has had periods of unusual prosperity followed by periods of depression, and these are likely to continue. We have learned that the periods of the business cycle are not always the same length in point of time, nor are the valleys always equally deep nor the peaks of equal height. A study of the past seems to disclose that a regularly recurring business cycle in the United States and Canada extends from 36 to 48 months from peak to peak. If averaged, the period may be placed at 40 months. For many decades, we have had periods of depression every ten years. Study of conditions before and after these periods of depression has led to an accumulation of data that helps us to forecast the future. With this information at hand or available through reliable statistical agencies, the business man who does not attempt a rough five-year forecast is likely to find himself falling behind in

the march of competition. The largest telephone holding company in the world maintains its own statistical department, which at periodical intervals sends to the officers of its subsidiary corporations a forecast of business upon which a five-year forecast can be made. A large electrical manufacturing company plans its building program upon a forecast prepared each year for a five-year period.

8. *Preparation of cyclical forecasts.*—The business cycle is normally divided by economists into four periods; prosperity, decline, depression, and recovery. It has already been noted that such a division can at one time only denote an average condition of general business, for businesses do not all become prosperous at the same time nor to an equal degree. But in forecasting for a specific business, a thorough study must be made of all external conditions affecting it. The reaction of all other businesses, upon which the specific business depends, or events which have happened in the past must be studied so that some idea may be obtained as to how these businesses will react to events now in the making. If possible, the forecaster should ascertain the exact relationship of the specific business to movements in some field where statistics are available, with an endeavor to find some industry that seems to set a pace and behind which the specific business will lag sufficiently to allow time for adjustment.

The cyclical forecast is usually made for a period of five years and is revised each year as a forecast

is added for the new fifth year. Such forecasts usually involve a study of business barometers and general tendencies of demand and supply and, because of the short interval of time, are not mere forecasts of average trend but are for the purpose of ascertaining the magnitude of the swing from depression to prosperity. Five-year forecasts will be prepared by different methods in almost every business, but in all businesses the foundation will be a study of cyclical movements in general business and the relation of the specific business to such movements. Signs of what is to come are present in all industries, and they are usually read from a study of factors affecting demand and supply. More will be said of the utilization of medium-term forecasts when the subjects of the plant and equipment and the financial budgets are taken up for discussion.

9. *The operating forecast.*—Since it is the operating forecast to which the operating budget must be revised, the greatest care must be exercised in its making. Every bit of statistical data available should be studied. Conditions of trade in various sections of the country in which sales are to be made should be analyzed and noted and conclusions drawn as to the likelihood of improvement or further change during the budget period. Study of raw material markets should be undertaken for the purpose of forecasting expected raw material prices so that the purchasing department may be guided in making contracts. The present condition of general business should be ascer-

tained, so that the expected trend in the specific business may be ascertained.

The period is often a year, but in many lines a three-months forecast is sufficient and, in fact, all that can be accurately arrived at. The shorter the term, the less the opportunity there is for revision and the more accurate the forecast must be. Most automobile companies now forecast three months ahead, but it is a progressive forecast, because, as each month passes, a new month is added, so the forecast is always kept three months ahead.

In many cases, yearly forecasts are revised monthly so that a revised forecast for a year ahead is always at hand. The advantage of so doing is twofold; first, it does away with interruption of business routine once a year in the preparation of extended forecasts and makes the forecast a continuous process; and, secondly, it allows for constant revision. Each revision keeps the management looking ahead. To these we may add the advantage of making forecasts at the close of one month, let us say of June, for the following June when the problems the business faced in a corresponding month are still fresh in the minds of the management.

REVIEW

Is business forecasting still in the experimental stage?

Describe the general forecast.

Distinguish between the short-term forecast and the long-term forecast.

What does the business cycle have to do with the budget?

CHAPTER V

STATISTICAL DATA FOR BUDGET FORECASTS

1. *Business statistics and intelligent planning.*—It will be helpful to list some of the sources from which data may be obtained, if suitable forecasts are to be prepared. These sources may be divided broadly into two classes, viz., internal and external statistics. In the first group, all the records and data will be included that the business maintains or that may be provided through adequate compilation. In the latter category, the public and private reports, bulletins and statistical studies will be included that are published in greater volume each year.

While the internal statistics will be discussed in more complete detail in later chapters, it is necessary to point out that reliance upon the accounting records alone will not ordinarily answer the purpose of the business. These records, it is true, are a mine of vital information, but they are historical and have the disadvantage of disclosing the results of operations too late to apply corrective measures unless the practice of preparing comprehensive and detailed monthly statements is followed. The budget is an estimate and it looks to the future. The accounting records are facts but relate to the past.

One difficulty that is often encountered and that must be overcome is that the budget period may not be coterminous with the normal accounting period. Some method must be found for reconciling these points of view. In some lines of business, especially those where style changes are a predominating factor, the budget period tends to be shorter than in other cases where changes are not so sudden. It will be obvious that the budget estimates cannot be checked effectively unless the accounting records are so organized as to permit at least a monthly comparison.

Quantitative data must also be supplied and, while most of it is available, many organizations do not provide the machinery necessary to secure this vital data. Many concerns neglect to make proper studies of their customers, such as determining their relative importance in the total sales volume, their respective credit standings or their potential capacity for purchasing more goods. Suppose, for example, that it was discovered that a company did three-quarters of its volume on one-third of the product it offered for sale. It is obvious that with this information in hand, both the sales and production effort would be more intelligently directed and controlled. Intelligent forecasting must be based upon a knowledge of the customers and what their requirements are.

A study of the customers based on areas will often prove fruitful because different factors operate with varying degrees of intensity in the several territories

in which an organization may do business. It may be found, for example, that the chain organizations have become so fully intrenched in a particular territory that the sales volume may not be increased except at a prohibitive cost; or a decline in sales may possibly be traced to this factor.

In some cases, the conditions are exceedingly complex and show more clearly the need for quantitative data. For illustration, the X Chemical Company manufactures a primary product "A" and obtains product "B" as a by-product, while the Y Chemical Company manufactures "B" as its principal product and obtains product "A" as a by-product. In order to protect its market in "A" product, the X Chemical Company enters into an agreement with the Y Company to purchase all of the latter's output of "A" product at the market price. It follows that a forecast of X's business in "A" product must take into consideration not only the dollar value but also the quantity which it must take over under its contract with the Y Company.

Hence, statistics on buying power of communities, the peculiarities of the habits of consumers in geographic areas as well as competitive conditions must be gathered, collated, studied, and translated into merchandising policies. The information may best be gathered on forms that disclose the names of customers and the total amounts of sales to them, possibly classified according to major products. Such a report would permit a detailed analysis of the busi-

ness of each customer, showing the volume and its trend with respect to each and, if the information was collated by geographic areas, the totals for the areas would be known. In studies of this character, it will often be found that trading areas do not follow the lines of political subdivisions, and, in some instances, the preparation of sales maps suitable to the conditions of the business must be undertaken. The buying power of the separate areas of a large city may show wide fluctuations.

It will naturally follow that records of performance for individual salesmen may be built up from the same data, because many sales budgets have their genesis in the salesmen's estimates of what they expect to do in the next period.

2. *Cost accounting systems.*—A proper system of cost records is an essential in a manufacturing organization. The statistics furnished by cost accounts form the basis of the estimates of the cost of production, and also reveal many sources of waste. The cost accountant endeavors to ascertain the exact cost of the material and labor which make up the prime cost of each part or unit of production or service and, by a process of allocation, he assesses to each unit a share of the indirect costs or overhead. From his researches, the cost accountant also establishes a "standard" cost which is an estimate of what the unit costs should be under normal operating conditions.

In many instances, the cumulation of statistics for budget purposes may not be satisfactory from the

standpoint of costing. Reference to this phase of the problem will be made in more detail in a later chapter. When this condition prevails, there must be a reconciliation of the points of view. However, at this point, it will be sufficient to note that cost statistics furnish the basis for determining the manufacturing budget for material, labor, and overhead that is, of course, based upon the sales estimate.

The production department relies chiefly upon the cost department for its estimates, and both the sales and production managers should know the profit point for each unit or article or product made; that is, they should know the quantity that it will be necessary to sell if a profit is to be made. There are two general groups of cost elements, i.e., variable factors and fixed factors. Variable cost factors are those that increase as the number of units of product increases. Thus the cost of direct material and direct labor are variable costs. The fixed costs remain the same, or generally the same regardless of the quantity manufactured. Such indirect costs as foremen's salaries, rent of factory, light and heat, together with other elements are examples of this class of costs.

If the capacity of a factory is, say, 1,000 units per day, it is obvious that where only 500 units are produced the indirect or fixed costs to be assessed to the individual units will be doubled. The increase in unit costs might result in a total cost equal to the market selling price of the article. Or, possibly, further analysis might disclose that even in the re-

duced production schedule part of the product could be marketed at a profit. The point at which the number of units of product manufactured is large enough to absorb all of the overhead, so that at a given selling price neither profit nor loss is realized, is called the "break-even" or profit point for that product.

3. *Sources of information on general business.*—In the foregoing chapter, emphasis was placed upon the importance of a general business forecast as a basis for revision of estimates. Statistical agencies may be depended upon for most of this information. Often, however, it is necessary to devise some method of keeping in touch with conditions at all times and, for that reason, the various departmental managers should arrange to keep some records themselves. One excellent way is to clip every item in the daily newspapers on the particular subject in question. For instance, the sales manager might keep a file by territories into which dated clippings bearing on business conditions and sales in the various territories can be placed. These may be supplemented by the various reports of business conditions furnished by private agencies, or by reports sent in by salesmen. Salesmen should be asked to keep the home office informed as to matters which are likely to have a bearing on sales in their territories.

The purchasing agent should build up statistics on raw material prices and stocks on hand over a period of years. A convenient way of keeping this informa-

tion is on small cards with vertical columns headed by the year, and with twelve horizontal lines, one for each month. As the monthly figures are obtained from Department of Commerce reports or trade publications, they are entered on the cards, and this information is invaluable in forecasting market movements and in establishing purchasing policies.

Fluctuations in the prices of the raw materials may point the way for more accurate sales estimates. Thus, it is clear that a sustained rising trend in raw material costs must be reflected ultimately in higher selling prices unless other costs, such as direct labor costs, indirect labor and material costs, or sales costs can be reduced. These indices may reflect a period of general price inflation more or less extended, but experience shows that a period of inflation must be followed by a corresponding period of deflation. Since all prices do not move in the same direction at one and the same time and, since the extent of the inflation is not the same in every instance, consideration must be given to the effect that increasing raw material costs will have upon sales. It is frequently found that the purchasing department's studies on raw material costs and trends will point the way to a period of trade recession long before the sales show any signs of decline.

A library of trade journals and other technical magazines may be established, and, as each publication is received, a clerk may catalogue the articles in a permanent card file and list them on a memoran-

dum that is sent to each department manager and to the budget director. This is usually better than passing the publication from desk to desk, as it takes so long to get around that the value of much current information is lost.

4. *Value of sectional reports.*—General business forecasts reflect average business conditions throughout the country. While every business is sufficiently dependent upon business in general to be affected one way or another by pronounced trends in average business conditions, still a knowledge of general business conditions is not enough. Depression or prosperity is always a matter of degree and it is extremely unlikely that any two sections of the country will be affected to the same degree by an economic condition favorable or detrimental to general business. It may be that conditions are very bad, let us say, in three-fourths of the territories served by the enterprise. On the other hand, the remaining one-fourth may be enjoying fairly good business. Assume that the remaining one-fourth happens to be the largest territory in terms of total sales volume. The need of detailed knowledge of sectional business conditions is at once apparent.

5. *Federal reserve bank bulletins.*—Each of the regional Federal reserve banks publishes a monthly summary of business conditions in its district. These may serve as useful guides in determining conditions affecting a particular industry. Business executives should not overlook the possibility of drawing upon

these sources of statistical information. Analysis may reveal that certain statistics found therein bear a direct relation to the activities of a business or the indicators may have a time relation to the sales of a particular product. For example, suppose that a concern manufacturing trowels discovered a time relation between building contracts awarded and its own sales. Likewise, assume that a concern manufacturing power and hand saws discovered a time relation between its business and the Federal reserve index of general production. A valuable discovery of this character could be applied in making the estimates of sales and production.

6. *Bank debits are an excellent indicator.*—One of the best indications of sectional business conditions, except in New York City where the figures are distorted by stock market operations, is the amount of bank debits, sometimes referred to as “checks cashed.” This figure shows the charges against the accounts of the customers of banks on account of checks drawn by those customers. The figure is better than bank clearings, for the latter include only clearing house transactions, while bank debits show checks cashed over the counter of the bank upon which they have been drawn. Since approximately 80 per cent of the country’s business is paid by check, this figure is extremely sensitive of any improvement or recession in trade.

To make use of this valuable indicator, figures for several years shown on a weekly or monthly basis

should be at hand. Study of these for each section of the country will show seasonal influences and will allow of interpretation of trends indicated by current figures.

7. *Other important factors indicating sectional conditions.*—Employment of labor is to some businesses the most important factor in estimating sales in a given territory. While unemployment may not greatly affect the sale of the so-called necessities of life, it does have a great effect on goods of the luxury class and upon many articles not absolutely necessary to life. Unemployment, however, is caused by other factors affecting the industries in any given territory and, if a forecast of employment is desired, it will be necessary thoroughly to study trends in those industries. For employment statistics the publications of the United States Department of Labor and the Dominion Bureau of Statistics are invaluable.

In any territory, it will often be found that certain industries predominate. If conditions are prosperous in those industries and appear likely to remain so, the conclusion may be drawn that this territory is a good one to sell in. The importance, therefore, of being thoroughly acquainted with factors affecting basic industries in each territory cannot be overestimated.

8. *Value of salesmen's reports.*—Many companies depend upon the reports of salesmen to keep informed as to business conditions in territories. The value of the practice has been previously referred to.

There are, however, certain limitations and disadvantages in this connection which should be realized. First of all, salesmen are engaged to sell. They are not engaged for their forecasting ability nor for their ability to prepare long and detailed reports. In fact, the most successful salesman may be unsuited for this work. He is often of a temperamental nature, easily depressed and easily stirred to optimism. Give him a few days of dull business and the skies appear completely overcast, and, if a report were prepared while he was in such a depressed state of mind, it would present a dark outlook indeed. If, however, he has just had a very good week, he would undoubtedly send in an optimistic report. To some extent, this difficulty can be avoided by sending to each salesman a list of questions to be answered, each question requiring a definite answer and reason. Care should be taken not to expect too much and not to burden the salesman with clerical work. After all, he is paid to be a salesman not a statistician.

9. *Governmental departments aid to business.*— Both the United States government and the Canadian government maintain statistical bureaus which are of great aid to the business man. In the United States, the Department of Labor prepares price indexes, data on employment, wage statistics, and other useful information. The Department of Commerce, aside from answering many specific inquiries, constantly collects statistics and publishes bulletins on a great variety of subjects. Many of these are

free, and when charges are made the amount is small. No business man should neglect to make himself familiar with these agencies.

While up to recent years reliable statistics on Canada were practically non-existent, the Canadian government now maintains the Dominion Bureau of Statistics which furnishes reports and studies on nearly every phase of the economic activity of the country. This Bureau, which is located at Ottawa, issues monthly reports on the many activities, the more important of which are as follows: Foreign Trade, Bank Debits, Automobile Production, Iron and Steel, Employment, Car Loadings, Boots and Shoes, Wheat, Prices, Cost of Living, Fisheries and Railway Earnings. These reports give enough detail to draw proper conclusions as to specific trends and current developments. Other studies of a slightly different type are issued from time to time covering specific industries and their progress for the year.

Although some thirty days behind the regular reports, the *Monthly Review of Business Statistics*, because of its simplicity, will probably be of the greatest value to the business man, where timeliness is not absolutely necessary. This may be had from the Dominion Bureau of Statistics.

10. *Other data useful.*—Interest rates, the international movement of gold, and the statistics of foreign trade are indices which reflect the price level, the volume of foreign trade, and in turn they will influence domestic business.

Car loadings as reported weekly are themselves good barometers for some lines of business. However, they do serve to show whether the flow of goods is increasing or decreasing, and give some indication of the gross earnings of the railroads which are, as a group, a most important factor in the business situation owing to the immense volume of their purchases.

The current building statistics are of vital importance. It may take some time for contracts let to materialize into construction, yet they furnish an indication of the trend in one of our most important industries.

The daily newspaper circulation reflects most of the activities of the community in an accurate manner, and is perhaps one of the best indices available as a guide in distribution.

Other sources of substantial value to business men are the weekly and monthly publications issued by various organizations showing current data on business conditions.

The selection of data for the forecast is, therefore, a most important step in the process of budgetary control. Unfortunately, the trial and error method must still be relied upon in the selection of indices. For one concern, the study of population, incomes, industrial production, and crops will be employed. In another case, the forecast may be safely based upon a census of businesses that might be potential buyers of the product or service offered for sale. The

time and money spent in the search for indices is a sound investment in most cases.

REVIEW

Why is it necessary for an organization to collect and analyze business statistics?

What information of value can be secured from the business itself?

To what source would you go for general statistics about Canada?

What coöperation of an economical nature can you get from the United States government?

To what extent would you rely on the reports of salesmen?

CHAPTER VI

THE SALES ESTIMATE

1. *Influence of factors on estimate.*—The sales estimate is the first step in the preparation of a budget. In order that the factors which control the estimate may each receive due attention, it will be necessary, first, to consider their respective influences.

During the decade 1920–1930, the emphasis in business shifted from production to distribution. At the same time, technological improvements were constantly going on in manufacturing, and apparently will continue to do so without any immediate prospect of abatement. Hence, we observe a tendency for production costs to decline and distribution costs to rise. While there has been considerable discussion on the subject of “profitless prosperity,” the mounting surpluses of many corporations seem to indicate that profits are still to be made by those who are progressive. At the same time, it is undoubtedly true that there is a substantial amount of manufacturing overcapacity for which there is no consumer demand, even in prosperous eras. The same condition is true in connection with the production capacity of our farms. From a study of manufacturing industries,

during the past decade, it would appear that the concerns which made profits had large outputs with a low-price policy, accompanied with great technical efficiency.

2. *Price levels and production volume.*—The significant phenomena of the present era, therefore, are the tendency toward lower price levels and increased volume of production. The price level at which goods may be sold will depend, among other things, upon the number of consumers who possess the purchasing power to buy the goods or service at the price offered. It will also depend upon the merchandising policy employed in bringing the goods or service to the attention of buyers.

Since there is only a certain amount of available purchasing power, it is evident that these outside or objective factors must receive proper consideration in making up the sales estimate. It is obvious that there is a limit to the total quantity of oil burners, for example, that may be sold. At one price level, say, one thousand dollars, there will be a certain number of potential buyers. If the price is reduced one hundred dollars, the number of potential buyers will be increased, and the cost of producing the goods will tend to decrease. However, there is obviously a limit to the extent to which this process of reducing the price level and increasing the output may be carried.

Price, however, is not the only objective factor that affects the volume. Many organizations are poor merchandisers and, in such cases, a reduction

in the price would not produce an increased volume of substantial amount. The failure may be due to faulty advertising methods, poorly organized sales forces, or some other weakness in the process of distribution. On the other hand, volume often may be increased with no reduction in price or even at an advance in price, if the advertising and merchandising campaigns are properly organized and carried out effectively.

Still another objective factor is the general advance in the standard of living, which removes certain articles or services from the luxury class to the class of necessities. This influence not only tends to increase the demand, but it is often accompanied by reduction in the price level of the raw materials purchased for production and, frequently, by an increase in the efficient employment of labor, by newer and improved technique in processing, and by better management.

Installment selling has greatly increased the demand for products and any sales estimate which is based in small or large measure upon this factor must take into consideration the fact that there are limits to the extent to which this form of credit may safely be granted. In periods of depression, collections may fall off and seriously affect the financial budget. Moreover, an unwise policy in the granting of consumer credit will surely cripple the financial budget in a period of depression.

3. *Economic considerations.*—The influence which

the objective factors may have upon the sales estimate must receive careful consideration in preparing the sales estimate. The sales estimate must be viewed from one of two angles depending upon the nature of the business. An electric light and power company or a telephone company in a growing community may safely count upon increased volume free from competition to produce a profit, and the sales estimate must be based upon the growth of the district served. But for the majority of establishments, the process must be reversed and the budget officer must first determine the profit desired for the budget period and then endeavor to reach the sales volume which will produce that profit.

It is not good economy to establish or continue a business unless its sales will produce a fair return on the investment equal, at least, to the rate that would be received on good securities. In addition, the management should provide something for the hazards involved. These two elements constitute the minimum profit desired or deemed necessary in view of the capital invested and the hazards involved.

4. *Financial considerations.*—Having determined the minimum profit, there must be added the cost of producing the business reasonably anticipated or in sight. The details involved in building up these estimates will be discussed more fully at a later point, but suffice it to assume at this point that the management is able to determine a reasonable estimate of sales and from this the cost of production is com-

puted. To these should be added other items of equal importance. Thus, it may be necessary to borrow money from banks to finance the volume of business. This cost must be computed as accurately as possible. If the financing included long-term obligations, which contemplated the sale of securities at a discount, the ratable proportion of such debt expense must be added to the aggregate.

Stockholders are entitled to dividends of reasonable amount and, if additional financing by stock issues is contemplated, it is clear the dividend rate must be sufficient to attract the needed capital. Hence, the minimum profit referred to above must be sufficient to cover the dividend requirements. Every properly managed business should provide a sum over and above interest and dividend requirements for possible emergencies, for increased working capital and future expansion. While additional working and fixed capital may be provided entirely by new capital or bond issues, this program is not wise because it does not furnish a back-log of surplus profits. These profits constitute an additional guarantee that the earnings will be sufficient to tide over a period of business depression, and thereby avoid the reduction or omission of dividends or interest on bonds.

In the foregoing analysis, interest on bonds has been treated as an element of cost. It is, however, frequently regarded as an item to be included in the factor of minimum profit. The same methods apply

in the case of interest on bank loans. Furthermore, cost of production must include the estimate for depreciation and obsolescence, both of which may be items of significant importance, especially in an industry subject to changes in styles or models or where invention is active.

5. *Staples versus specialties.*—As previously indicated, the sales estimate must not overlook the fact that fluctuations in the business cycle are of greater importance in the case of staple merchandise and of lesser importance in the case of specialties. This will be evident upon reflection because the cyclical period in the latter case is usually shorter than the normal cycle. It is probably safe to say that in most instances under recent conditions, particularly during the past decade, only a relatively small allowance for cyclical changes needs to be made in sales estimates.

6. *Market and sales analysis.*—Let us assume that the desired profit is now ascertained, and that the effect of the business cycle has been considered. The next step normally will be the market and sales analysis. While these are primarily subjects which concern sales management, yet they are pertinent to the preparation of a budget and reference to them must be made briefly. We may merely state the fundamental principle—that market analysis is of less importance and sales history of greater importance where we are dealing with staple goods which have been marketed for a long period under well-established policies. It follows that market analysis is of

the utmost importance in considering new specialties.

Both the market analysis and the sales analysis are important, and in most cases essential, if past results and future possibilities are to be interpreted and evaluated. The former seeks to determine the potential demand, and takes cognizance of many factors, some of which are general, others specific or local. It includes a study of such factors as the number of industrial establishments, the trend of population, checks cashed, savings bank deposits, agricultural conditions, the habits and character of the people, climatic conditions, etc. The local factors include a consideration of the progressiveness of the community, its attitude toward new industries, questions of local taxation, and the like.

On the other hand, the purpose of sales is to make a profit, and, even though a demand may be indicated, sales may not produce the revenue desired. A market analysis might thus indicate a definite demand on a yearly basis, which could be satisfactorily satisfied by a selling effort of several months or weeks. The particular territory, in other words, could be profitably worked by an intensive effort of a short duration. Any further sales effort would show reduced profits or possibly losses.

7. *Sales history must be complete.*—In estimating the sales for the ensuing period, it is a customary practice to assume that the volume will be, in dollars, a certain percentage greater or less than that of the past period. Such estimates may be wide of the

mark because they omit to take into consideration the rise or fall in the price level. Hence a mere statement in dollar volume is not sufficient, and must be supplemented by estimates of quantities. If the output of a factory is homogeneous in character, dollar volume figures adjusted to the fluctuations in the price level may be sufficient. In cases where the output is heterogeneous in character, at least the quantity of the important items must be ascertained, if accurate sales estimates are to be made. It is obvious that the production budget cannot be intelligently prepared unless quantities data are available.

8. *Classification of sales.*—The person responsible for the sales estimate cannot overlook the importance of estimating sales by salesmen. Past experience will indicate the volume of business which each salesman may be expected to produce. An estimate prepared on this basis is a valuable check on other estimates derived from different data. The cumulated total for all salesmen may, in some instances, be the only reasonable or successful method to employ. This involves not only a knowledge of what may be expected of the salesman, but it contemplates also an answer to the question, "Is there any prospect of increased business from each and every customer?"

9. *Advertising and the sales estimate.*—In some cases, it will be necessary to prepare estimates of direct sales which are due to advertising. If careful studies have been made previously of the inquiries and conversions into sales arising from advertising,

there will be a sound basis for future estimates. It will be clear that the budget appropriation for advertising and direct circularizing cannot be intelligently made unless proper information as to sales possibilities is at hand. During the past few years, more attention has been given to the preparation of statistical data on sales than was formerly the case. This is particularly true in the case of quantitative data. Records showing quantities by articles or departments, by territories, by salesmen, by seasons, by branches, agencies or jobbers are illustrations of the types of data.

10. *Coördinated effort required.*—From what has been said above, it is evident that coördinated effort must be attained if the budget is to be successful. Deliveries cannot be made unless goods are manufactured or are in stock, and the purchasing department must, therefore, time its orders and purchases so that the minimum inventory consistent with safety shall be on hand. Every additional dollar of stock on hand over the minimum requirements involves additional interest cost, storage space, and handling charges. Whether the business is that of trading, or manufacturing, or rendering special service, there must be harmonious, coöperative effort all along the line.

Since the sales estimate is the basis of the plans of all the other departments, it is essential that the estimate shall be carefully prepared, by months in the first instance, and that all deviations in actual

results from the estimates shall be promptly noted, and corresponding adjustments made in the other departmental budgets. Obviously, it will not be safe merely to assume that the sales for the ensuing year will be a certain percentage over or under those of a preceding year. All of the factors which are likely to affect business conditions must be reviewed and assigned their appropriate weight in projecting the estimate.

Where the trading stock consists of numerous items, or where the manufacturing operations are concerned with heterogeneous products, involving, in some instances, many hundreds of items, the task of making the estimate is one of great complexity. It must, nevertheless, be undertaken. It is here that sales statistics prove of great advantage, since they will show slow-moving stock and fast-moving merchandise, as well as the items which are most significant in the total. It may suffice to prepare the budget on the basis of the most important items in such cases, since absolute accuracy is well nigh impossible of attainment. When a budget plan is first inaugurated, it will probably be found that the estimates are wide of the actual results. However, as more experience is attained, greater accuracy follows.

11. *Induced obsolescence versus mass production.*—The introduction of style features and new models was the result of the view that business prosperity depended on the units sold, and hence every effort

was made to induce early obsolescence. The best illustration is found in the automobile industry in which experts predicted, as early as 1924, that the saturation point was then in prospect. But the manufacturers met the challenge by bringing out yearly models, and, in some cases, new models every six months. Advertising was employed to stimulate the desire of the public to own the new model and scrap the old. This worked nicely for a while, but it created the used car problem.

Meanwhile the cost of introducing the yearly models prevented a realization of the real economies of mass production with its consequent reduction in prices. Even Henry Ford had to capitulate to the prevailing trend. Hence, in any business where this factor is operating, the sales estimate and the budget which is prepared from that estimate must be governed accordingly. This means that selling prices must usually be determined many months before the goods are offered or announced to the public. But this also means that the manufacturer must estimate the number of units he can sell during the life of the model or style, as well as the cost to produce and sell the goods.

12. *The budget process.*—In order that the reader may have clearly in mind the budget processes referred to in succeeding chapters, it will be desirable at this point to outline briefly the successive steps under the selling estimate just referred to. As already stated, the sales estimate must first be made, after

which the management must determine the profit desired, on the basis of the anticipated sales. The margin between sales and profit must necessarily be the total sum that may be spent in production. The sales estimate by months furnishes the basis for the production and shipping budgets. The processing time must then be determined, bearing in mind the normal working month of 25 days. The production and purchasing departments must coöperate in the purchase of materials and their fabrication in order to meet the quota of the sales estimate.

The next step is to prepare estimates of the cost of production, under such headings as direct material, direct labor, manufacturing expenses, sales and administrative expenses. These estimates are prepared by the proper divisional heads and are broken down into such detail as the operating conditions and nature of the business may require. Other income and expense items must next be estimated, also by months. When this is done, a tentative profit and loss statement and balance sheet are prepared. From this material the financial budget, showing monthly receipts and payments of cash, is made up and the management may then determine whether temporary financing is necessary in the form of bank loans, and how much, and when they may be repaid.

13. *Changes in habits and customs.*—The rapidity of changes in economic wants or desires must be studied in connection with sales budgets. The natural ice business has been seriously affected by the gas

and electric refrigerators. Sales budgets of progressive ice companies have taken cognizance of altered conditions. The development was gradual and ample warning was given to the natural ice industry so that some might retire from business without too great financial loss. All electric radios, on the other hand, made a substantial change in the electric battery business within a short time.

The preparation of a proper sales budget brings all of these factors to light, helps to determine the rapidity of change, permits the salvage of much of the capital investment, and allows the manufacturer either to close down with less loss or enter a new field of endeavor. The transition from phonographs to radio is an illustration of the problem presented to all manufacturers, sooner or later.

14. *Foreign sales now a significant factor.*—Mass production eventually necessitates the development of the foreign market. Many American industries have reached the point where mass production has made it possible to cultivate these markets on a price basis. Generally speaking, this has added immeasurably to the cost of distribution. In any event, it certainly has added to the problem of sales forecasting and sales expense control.

The American is not internationally minded. He has had little experience in the foreign field. He did not enter it by choice, but was precipitated into it by the exigencies of the World War, when he was neither equipped nor inclined to handle

the business successfully. Losses have been enormous in the fields of sales expense, market development, and advertising costs. Much of this expense has been viewed as a capital expenditure, the return of which will be reaped in the future.

These facts constitute no blanket indictment of foreign trade as such, but rather indicate the problems involved. There are other problems involved in controlling foreign sales and sales expense through a budget. Distance and the expense of communication facilities make it difficult to check up on performance. The introduction of a foreign currency and the necessity of foreign exchange calculations render the problem even more difficult.

In spite of these and many other difficulties, fairly satisfactory means of control can be worked out if the volume is large enough to warrant it. For example, one concern budgets and controls its foreign sales almost as closely as those in the domestic market. The volume is large enough to absorb the necessary cable and other expenses involved in maintaining current control.

In the case of the individual business, the place that foreign sales occupies in the budget will be due entirely to the policy of the company. If such sales are purely fortuitous, and not the result of a definite program or endeavor, they may be disregarded entirely for budgetary purposes since there is no method of accurately forecasting their volume. On the other hand, if the company has actually invaded

the foreign field in order to secure an outlet for the productive capacity, serious thought and attention must be given the matter.

Methods must be evolved to suit the particular market. The old, time-tried methods of sales forecasting cannot be bodily transplanted from the American market to the foreign one. In fact, each of the foreign countries in which a company sells presents its own market problems, which must be solved by experts familiar with those conditions. One manufacturer maintains research organizations in his larger foreign markets and staff experts in the smaller ones, so that the sales forecast and expense control figures are related to the conditions existing in the market. If there is any budget which should be truly a composite one rather than a derived one, it is the budget covering foreign distribution.

15. *Foreign competition in domestic market.*—In connection with sales in the foreign market, a coming development in the domestic market in the United States should be pointed out.

Due to a high tariff, imports of finished articles from abroad are comparatively unimportant now. This fact, however, should not mislead the business man in his plans for the future. The essence of all trade is a *quid pro quo*. Foreign trade of the United States has been one-sided for some time. That is, goods have been sold abroad and payments taken in gold and foreign loans. The existence of these loans, on which interest must be paid from year to year, and

the growth of exports will necessarily result in increased imports in the future, as a matter of simple economics. Tariff barriers may either be removed, or they may remain, but foreign goods must come into the domestic market in greater volume. The rehabilitation of the manufacturing capacity of the import countries of the world, which has been accomplished to a great extent with American capital, will surely change the picture.

Many foreign countries have been adopting American methods and are making a definite bid to regain the business lost during the World War. Now that the principal countries of the world are on a gold basis, it will be impossible, as well as undesirable, to take further gold in payment for exports. Foreign trade is a two-way proposition, and although the business man may favor high tariffs, when he enters the foreign market he must adjust his views accordingly.

The sales budget in the future must give full weight to these factors, which will force an ever-increasing amount of foreign sales in the domestic market. Plans must be in readiness to meet this new development.

16. *Chain store and merger influences.*—The chain store systems, which are hailed as a new development in the field of distribution because of their mass buying power, are no different in this respect from the buying groups which have existed for a quarter of a century. It should not be overlooked that buying

power is developed as the chain grows. The chain did not spring into existence as a full-fledged organization with buying power of millions on tap. On the contrary, all started from modest beginnings, and their great buying power has been the result rather than the cause of their growth.

Nevertheless, the established chain store systems do offer a problem in arranging a distribution budget. In the lines in which they specialize, the manufacturer's sales forecast is dependent to a certain extent upon their action. Up to the present, however, they have found it to their advantage, generally speaking, to handle nationally advertised and developed brands. They have acted as buying agents for the community rather than attempt to force the use of their own brands. If the sales forecast covers a branded commodity, it can stand on its own advertising reputation; the chain stores are forced into line just as inexorably as the smaller, independent stores.

Recently, however, there has been a tendency on the part of the chain store to advertise in the newspapers and push its own brands over the counter. This may change the situation, so that it behooves the manufacturer making a forecast in this field to determine carefully by investigation the extent to which this is being done and the extent to which it will be done for the coming year.

Mergers have also contributed to disorganize the established practices and trade channels, since most of the mergers of recent years have been in the field of

distribution. Strong products have been forced to carry weak ones. Considerations of financial bargaining in many cases outweigh economic considerations. Products are built to a price, to fit into a line, rather than in response to a specific and clearly defined consumer demand. The consumer's interests have been neglected in the important desire to present a well-rounded competitive front.

Sales channels, as a result of mergers, instead of following natural channels, have been diverted. Purchases are made through some member of the affiliated group. The community of interest is disturbing the natural flow of distribution. There are cross-currents in this stream which do not benefit the consumer, since they usually are not on a competitive basis, and thus add to the cost of distribution.

17. *Price policy.*—From the foregoing factors, it is plain that price policy is of far-reaching importance. Not only does it affect the specific business, but all business, since it is obvious that higher or lower prices in one line of industry will affect many other lines. If prices are set at the market, the business will get its share of profit with ordinary methods and management. If prices are set above the market, it will be necessary to give the goods additional value by extensive advertising. The increased costs of marketing and advertising will probably absorb the increased margin. If prices are set below the market, more than average skill and ability are needed in the business, or failure will re-

sult. Only the most efficient producers can afford to undersell the market as a continuing business policy.

These observations are based on products comparable as regards quality and service, a condition which rarely exists. Further, the consumer is not the expert buyer that the theoretical economist visions, but is often a very poor judge of quality and utility. The public is judge of but one thing—its own desires; the public buys what it *needs*.

18. *Price policy and market research*.—Market research is the surest method of determining the most profitable price policy. It is the quickest and cheapest method of finding out what people want, and how badly they want it. Mistakes such as one restaurant company made in trying to convert its customers from a meat diet to a vegetarian diet, because of a fad of the founder of the business, can be avoided by such methods. The company did not have to get a new management to find that people cannot be made over; if its executives had consulted competent advertising or merchandising experts they soon would have learned that habits cannot be changed in mass profitably.

Market research not only shows what people would *like* to buy, but at what price they *can* buy. The amount of advertising, the type of distribution, the very description of the product depend upon price policy determined by thorough market research.

19. *Pricing the specific product*.—All of the con-

ditions which obtain in the determination of a general price policy apply in the pricing of the specific product. Market research of an intensive nature should be used here. It is no excuse to pass up the research by saying that the product is new and does not warrant the expense of investigating possibilities—if it is worth doing at all, it is worth doing right. It is no excuse to say that the product is established and market research is not needed. That is what just happened to the piano manufacturers. They insisted on enormous profit margins, and used wasteful production methods, until the radio invaded their market to such an extent that the industry will probably never regain its former position. Frantic last-minute price reductions and advertising campaigns came after the battle was won—by the radio.

Many other products and industries could be mentioned which have lost out in the business struggle, because they did not adapt their prices, or their methods, to public demand.

For instance, market research in the coal industry a few years ago would have shown that the public was disgruntled, not with average price, but with price fluctuations; and, further, that uncertainty of supply due to labor and transportation difficulties was creating an unfavorable impression in the minds of the purchasers. It would also have shown that the public knew little of the proper utilization of coal.

At last the industry has awakened to the situation, and is now spending money showing people how to

kindle a fire in the furnace and, what is more important, how to keep it burning economically, from a financial and exertion standpoint. Automatic stokers have been perfected, ash removers introduced, and everything possible done, so that now in convenience of use coal compares favorably with oil. Yet, in spite of the fact that the price of coal heating is much lower than that of fuel oil, the latter is more than holding the market which it gained through the dilatoriness of the coal industry.

Pricing the specific product is more than a pricing of a physical thing—it is a pricing of the demand “use value” of the thing. The different classes of buyers of a product, moreover, view its value to them in widely different lights. The price must cover these various subjective class valuations.

Then, of course, some attention must be given to competition. Direct competition is a fairly simple factor in pricing a product. It is the indirect competition which presents the real problem. The power of substitution, although a fairly recent gift to the consumer, is the most forceful influence with which business must deal. What does it profit the business man, if he meets competition of his own particular line only to lose out to an entirely new or different line which the consumer may substitute in making purchases?

20. *Sales volume depends on all factors.*—Sales volume depends not only on direct competition, but on all of the general factors discussed in this chap-

ter. Many business men consider only the single factor of direct competition.

If this chapter has conveyed an idea of the complexity of the forces which affect distribution, it has accomplished its aim. The field of production, with its stop watches, mathematical exactness, and engineering standards is as far removed from the sensitive and psychological forces met in the field of distribution as the East is from the West.

REVIEW

Why is the sales budget the first budget prepared?

Discuss the financial considerations given to the preparation of the sales budget.

What is the value of market and sales analysis in the making of the sales budget?

Describe the relation of the sales budget to the production budget.

What relation does price policy have to budgeting?

Discuss the factors which affect the sales budget.

CHAPTER VII

THE SALES ESTIMATE (*Continued*)

1. *Sales estimate is not a rigid goal.*—When a sales forecast is compared on a monthly basis with actual sales, the results are often far from perfection. An estimate 90 per cent correct in the monthly sales figure is something to be proud of, even where the annual estimate is 98 per cent correct. Absolute accuracy in this estimate is unnecessary. On the other hand, rigid adherence to an estimate might be a retarding factor in a year when there were unusual developments favoring the business, such as the fortuitous circumstance of a Wall Street boom, the failure of an important competitor, a war, or something of a like nature which might enable it to exceed by far the most scientific estimates of the sales possibilities. A sales forecast should never be viewed so rigidly, particularly by the sales force, as to prevent the concern from getting its share of new or boom business. It must be flexible enough to adapt itself, well in advance, to any new conditions.

2. *Effect of natural industrial growth.*—The normal industrial growth of the country, which is more rapid than population increase, should also be used in making estimates. This trend in general business will

affect the specific business for which the forecast is being prepared, and its influence should be determined as closely as possible. This industrial growth is the increase in the actual volume of production of the country and not the growth in productive capacity, since at all times a great deal of the productive capacity is idle.

It is the normal growth in units of output that is of importance in this forecast. Without any unusual effort, a business should be able to increase its volume from year to year at least commensurate with the amount of this growth. If the business does not show an increase comparable to that of industry in general, it is, relatively speaking, losing ground.

3. *Effect of population increase.*—While population increase is more important to some lines than to others, it affects all. Population increase should be considered in conjunction with industrial growth, since part of the increase in production comes from a rising standard of living, and part from an increase in the number of consumers. The relation of population growth and industrial activity in the United States is shown in the chart illustrated in Figure 6.

The Bureau of the Census has worked out elaborate formulae for determining the population from year to year. The census, which is taken every ten years in the United States, serves as a check on these methods, and experience has shown that they are very close to the actual results. The government releases annually estimates of the present population, and by the

use of the same formulae, the increase in population for the coming year can be closely foretold.

4. *What statistics to use.*—The Department of Commerce furnishes a great variety of statistics, including figures on production and wealth. While

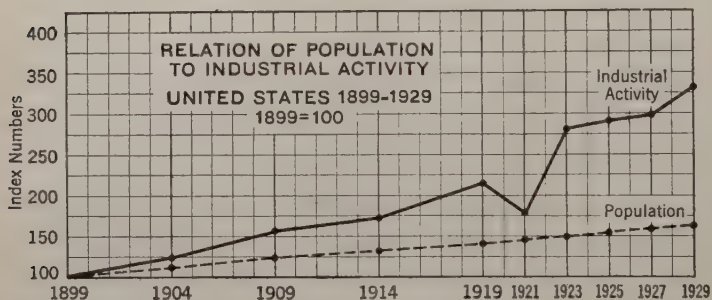


FIGURE 6—CHART SHOWING RELATION BETWEEN POPULATION GROWTH AND INDUSTRIAL ACTIVITY IN THE UNITED STATES

wealth is not to be confused with purchasing power, it should be considered together with income and population statistics, in determining distribution possibilities. The studies of the National Bureau of Economic Research should be helpful in this respect. Some of the leading magazines advocate the use of magazine circulation in determining potentialities.

A few concerns have worked out a coöperative arrangement with other companies, whose products fall in the same general class, through which sales experience in the various territories is pooled.

Many of the large advertising agencies have made extensive studies of purchasing power by markets

and localities. These studies, together with the studies of many newspapers, are available to the public. One automobile company has made elaborate studies of effective consumer purchasing power, with the county as a division unit. All incomes up to \$10,000 a year are considered effective—those above this figure are included with the \$10,000 group on the theory that they are not appreciably better; i.e., a man with a \$200,000 income does not buy twenty cars.

However, no single index is reliable year after year. A composite index formed by weighing several groups of data gives a much better result in revising sales estimates. A scientific foundation such as this has great advantages, even though absolute accuracy cannot be obtained.

5. *Business enterprise count.*—Statistics such as the "Business Enterprise Count," of R. L. Polk & Company, New York, are of such value that special mention is warranted. This count covers manufacturing, wholesaling, retailing, bank, financial, public service, and government enterprises. These are further subdivided into more than one hundred classifications, making it still more valuable. This count shows not only the industrial development of a section, but also the mercantile coverage, and throws a valuable light on purchasing power. This latter condition is particularly necessary in times of business adjustment. A section which shows a preponderance of textile mills would scarcely be a place

to look for new business in time of a textile depression. Such statistics enable a selective development of the many markets into which the United States is divided.

6. *Revision in terms of production facilities.*—The sales estimate, at this stage, is revised in terms of production facilities, finance, general policy, and new conditions. A careful revision of the sales estimate to fit the sales program to the production department facilities will prove a source of real profit. It will sometimes be found that the sales department has emphasized the goods which are easy to sell, with slight regard to the profit margin or problems of production.

The sales forecast, after all, is in essence merely an order on the production department for certain quantities and qualities of goods to be delivered on specific dates. The program may overtax the production facilities, or, again, it may not be large enough to permit economic utilization of the production facilities. On the other hand, it may demonstrate the wisdom of buying some products from other manufacturers.

Many advantages may be derived from the budget, at this stage, by an alert management. A comparison of the sales possibilities with production often shows that the things easiest to sell are hardest to manufacture. Sales volume has a tendency to concentrate on the low profit items in the line, unless special emphasis is placed on the high profit prod-

ucts. This emphasis is not as simple or easy as it seems, since profit margins, as between products of the same company, change from year to year, due to variation in the cost of raw materials and improvements in technical processes.

The sales estimate should be revised with an eye to ultimate profits rather than immediate record-breaking performance, which keeps both the sales and the production departments on their toes. In fact, it will usually be found that attention is being scattered too much; that a variety of products is being handled, many of them without justification from either a present or a long-run standpoint.

Simplification, one of the bywords of modern business, is a yardstick that can be used often during this revision. By concentrating on one or two products, special machinery and processes may often be used which will warrant a price that will keep both sales and production busier than ever before.

7. *Detailed cost estimates used.*—From the foregoing, it can be seen that detailed cost estimates are necessary for this revision, costs based not only on maximum and minimum production, but also on “in between” production totals. These costs are sometimes a revelation; they have been at times so far out of line with present costs that it has been necessary to go back to the beginning and derive sales estimates on the basis of a new selling price.

8. *Regulating sales to financial requirements.*—Paradoxical as it may seem, there are occasions when

the volume of business must be curtailed because of financial requirements. A fire insurance company is required to set aside a certain premium reserve to take care of the unexpired portion of the risks. If the volume of premiums written is too great, a situation may be created where the surplus of the company will entirely disappear due to the provision required for the unexpired portion of risks outstanding. Unless additional capital and surplus shall be provided, it will be necessary to cut down the amount of new business written. In such cases, the expense ratio will have a tendency to mount, and the aggregate profit on underwriting and on investments may be greatly reduced.

In the case of a trading or manufacturing business, it may happen that the business obtainable will be larger than the financial resources of the organization can take care of. It is unwise to finance too extensively on bank loans, especially if the terms of credit extended to the customers are liberal. Installment businesses face this problem acutely. Relief may be had by assigning accounts receivable, or, in some cases, through the use of trade acceptances. This may involve greater interest and financing charges, which will, of course, cut into the profit margin to a corresponding extent.

9. *Revision in terms of finance.*—Overexpansion, or expansion at the wrong moment, has, according to some authorities, occasioned more business failures than all other causes combined. In a well-managed

concern, it is frequently an unwelcome task of the financial authority to restrict the plans for the coming year to certain limits. The cash and credit resources for financing both sales and production must be planned, and these plans must tie in with one another. It is more than a problem of getting the necessary funds; they must be had on the proper terms as regards cost and safety.

If credit conditions are tightening, or if the financial structure of the company has become inadequate, it may be necessary to pare the sales estimate to an amount dictated by financial prudence. There is a relation between the amount of business that can be safely done and the capital investment in an enterprise. If this ratio is exceeded, financial soundness is sacrificed. Many an organization has, to its own sorrow, sacrificed strength for mere volume or size.

Then, again, sales and production outgo should be adjusted to bear the best possible relation to the income and financial resources. If seasonal peaks in the sales volume can be ironed out by concentrating on other items of equal profit margin, financing is facilitated.

10. *Factors weighted according to industry.*—It is obvious that the weight given these various considerations must differ according to the industry. A business of a basic nature, one of low unit financial requirements, or one in which style is an important consideration, would each require a different weighting of these factors. Certain industries are more or

less dependent upon other industries, and some of these considerations may not apply. It must be left to the intelligence of the individual business executive to make the proper use of the suggestions given in this chapter which apply to his business, and disregard the others.

11. *The sales forecast.*—The sales estimate, with which we have been dealing throughout this chapter, becomes the sales forecast after it has been subjected to the necessary revision and is approved by the management. Some firms refer to their sales estimate as a forecast, and vice versa. But a better idea of the fixed character of the plan is given, when the term “forecast” is used to cover the completed sales program for the coming year. This plan, based on *qualified* experience, shows the commodities—their quality and quantity—demanded by the company’s natural market for the coming year. The time element in this demand is just as important as the quantity factor, since the production department must know the approximate shipping dates, so that it may plan the most efficient utilization of the facilities.

A form of territorial sales budget, which is combined with all territorial budgets to make up the final sales budget, is illustrated in Figure 7.

12. *The sales quota.*—The sales forecast is not to be confused with the sales quota. The quota is the minimum amount of business that will be expected from a territory, so that the organization as a whole

will attain the volume of business called for in the sales forecast. In determining the quota for a certain territory, it is necessary to consider previous volume of business obtained, present local conditions that might affect sales, advertising plans for territory

YEAR _____ SALES BUDGET TERRITORY _____											
PRODUCT	LAST YEAR		ESTIMATE		JANUARY		FEBRUARY		MARCH		
	Units	\$	Units	\$	Units	\$	Units	\$	Units	\$	
#1											
2											
3											
4											
5											
6											
TOTAL											

FIGURE 7—TERRITORIAL SALES BUDGET

during quota period, and the number of possible new customers.

Because the sales forecast is based on the estimates of the salesmen in many companies, the original estimate of the individual salesman is often assigned as his quota. Frequently the sales quota is fixed higher than probable attainment, as a goal to strive for. On the other hand, the sales fore-

cast is an absolute dead line which must be attained or serious losses will result.

13. *Relation of the sales budget to other budgets.*—The sales budget is really the beginning and the end, so far as budget operations are concerned, although, of course, the results of the financial budget constitute the ultimate goal. The sales budget is at the same time cause and effect, since sales volume affects cost of production and the cost of production affects sales volume. Then, too, inasmuch as all other budgets are based on the sales budget, they are only as accurate as it is.

Since comparative accuracy in the sales budget is so essential, the length of time for which the sales forecast is made will depend upon the industry. The railroads have found it impossible to budget more than three months in advance, while other firms with a diversified line have been able to secure a high degree of accuracy with a yearly forecast. Still others, like the American Telephone & Telegraph Company, have two budgets, one for a short period of time, covering everything in great detail, the other showing a provisional estimate for a much longer period. The length of the budget period, and the actual methods employed, are covered elsewhere in the text and will not be discussed further here.

14. *Responsibility for the sales forecast.*—The initial and final responsibility for the sales forecast is the same—the highest executive authority in the company. The sales forecast is the concern of all the

departments of the business. There is an essential interdependence of all departments upon one another, and the focus of these dependences should be centered on the sales budget.

If this forecast had a different name, such as the "prosperity forecast," or something similar, it might be easier to convince the other departments of their responsibility in its preparation. Since it is labeled with the word "sales," it has been confused with quotas and often viewed as the particular problem of the sales manager.

REVIEW

What part does industrial growth, and population increase, play in the preparation of the sales budget?

Discuss the value of keeping in mind production facilities, when preparing the sales estimate.

Differentiate between the terms "sales estimate," and "sales forecast."

What is the relation of the sales budget to other budgets?

Who should be responsible for the sales forecast?

CHAPTER VIII

SALES EXPENSE BUDGET

1. *Legal and economic reasons for sales expense budget.*—While great pressure has been placed on the manufacturing department to reduce costs, the sales department, on the other hand, has often increased its costs, even to the point of spending the money saved in manufacturing. But today, in progressive organizations, the sales cost accountant and the expense analyzers are carefully studying selling expenses which have a tendency to get out of line. Manufacturers, wholesalers, and retailers in the United States have begun to study selling expenses for legal as well as business reasons.

In its provision against price discrimination, the Clayton Act provides that "differences in selling prices of the same articles to different customers can be justified only by either competitive conditions, or differences in cost of selling to different classes of customers, or to different individual customers." Hence, the manufacturer should know the relative costs of selling various quantities to jobbers, retailers, and dealers, as well as the cost of selling in different districts and under different competitive conditions.

2. *Sales expense based on sales estimate.*—While the sales expense budget and the advertising budget cover the major elements of distribution expense, and while both should be based on the sales estimate, they differ so radically that advertising will be treated in a separate chapter, leaving the other selling expenses to be considered here. At the outset, warning must be given of a change in method. Whereas in the preparation of the sales forecast, synthesis, a building up from many facts, was used, in preparing the sales expense budget, analysis, just the opposite method, is used.

Controlling sales expense, even when a budget is used, is sometimes the hardest thing to do in the entire field of business. The human factor in selling is greater than in production with only its machine operators, since in selling there is both the salesman and the prospective purchaser. This doubling in the quantity of the human element is not nearly so important as is its change in the quality. Nearly any sales manager will testify that salesmen often qualify as *prima donnas*, on the score of temperament, at least.

The sales budget is concerned primarily with the psychology of the consumer, while the sales expense budget encounters the psychology of the salesman. To make a sales expense budget, one must know this psychology of the salesman.

3. *Sales expense control originates with the sales manager.*—Salesmen are not asked to aid in the con-

struction of this budget, although they are forced to coöperate in carrying it out. The original estimates of distribution expense are made by the local sales managers on the basis of past records, at the same time that they are securing the coöperation of their salesmen in making the sales estimate. Since their estimate is based almost entirely on past records, it is necessarily susceptible to change. While the original estimate is fairly easy to make, the subsequent revision, and the enforcement of the final estimate, are difficult, on account of the intangible character of the forces involved and the lack of standards in the field.

4. *Cost accounting not highly developed in distribution.*—The orthodox concept of cost accounting does not include the sales field, as indicated in the following definition from a standard text. “Cost accounting is that part of accounting which relates to securing, compiling, comparing and analyzing of material costs, labor costs, and manufacturing expenses in such a manner that the unit costs of part of a product, of a complete product, or of a group of products may be obtained.” Since selling conditions vary from day to day, and from territory to territory, it has been impossible to develop satisfactory cost standards. In this field the business man meets many uncontrollable forces; sales expense must conform to developments. While the total sales volume may be predicted, the effort and expense to secure this volume cannot be so closely foretold. As a re-

sult, most concerns have lumped their sales costs instead of distributing them, and have viewed the total as a percentage of sales cost.

The National Association of Cost Accountants, however, has published certain pioneering studies showing how to determine "the normal cost per call per salesman." Unfortunately, these studies are but an attempt to apply the idea of standard costs to selling, which as yet has not proved satisfactory. Standard expense rates have also been set up for some of the items in the field, with little success. Of course, a standard expense rate covering all the expenses of distribution would be a more accurate method to employ, but it involves the gathering and analyzing of considerable information that is difficult to obtain.

5. *The sales dollar.*—This effort reaches its logical development in the sales dollar idea. The theory of the sales dollar is, that out of each dollar received for goods sold, so many cents go for production, so many for distribution expense, the remainder being profit. Some firms have subdivided the sales dollar with great detail.

Without any desire to minimize the psychological value of the sales dollar idea to management, it must be pointed out that it is based on a false assumption. The outgo has been known, in some cases, to exceed the income. In fact, in certain territories, which are being developed, or where competition is keen, it may be perfectly proper and advisable for the outgo to exceed the income. There are always

some territories below the margin of profit potentiality; if there were not, sales expense control would not be necessary.

6. *Sales costs must be on territorial basis.*—In analyzing sales expense, there are two closely allied goals: the profitableness of the individual salesman, and the profitableness of the territory. No general method of determining a ratio of costs to sales will answer these two questions. Any such method measures sales efficiency by the amount of goods sold, rather than by the amount of profit realized.

It is obvious that it may cost three times as much to sell a Topeka merchant as a New York department store. It is further obvious, at least to any salesman, that some items are ten times as hard to sell as other items in the line. Any accounting or budgeting system worthy of the name will give full effect to these differences in costs.

Then, again, from the standpoint of the control of salesmen, the territorial basis is the only logical one. By matching up the sales expense, and the sales realized against the previously calculated buying power index, or sales estimate, of the territory, a true measure of the salesman is secured. In the past, many a "star" salesman arrived at his position solely because he had been fortunate enough to be sent to an unworked territory. Transfer to another territory has often shown the true worth of such salesmen, by causing their sales to decline to average proportions.

7. *Does the salesman "pay?"*—In passing on the efficiency of the salesman, no narrow viewpoint can be taken. Many a good salesman who does not "pay," when compared with orthodox standards, is shown to be really profitable when a closer and more scientific analysis is made. Has he been backed up in the right way with advertising, dealer helps, sales promotion campaigns, etc.? What results has he secured from the opportunity open to him? Selling is a great deal more than the individual effort on the part of the salesman. The salesman is only one of the many forces which ultimately result in sales.

Few manufacturers, nowadays, expect salesmen to be profitable of themselves. It is generally conceded that the sale of goods requires a proportionate coöperation of many efforts. By the same token, the salesman should receive either credit or censure only to the extent of his contribution to the results.

8. *Does the territory "pay?"*—With so many territories unprofitable, the business man should not relax his efforts in a given area merely because it shows a good profit or a normal profit. What he wants is the last dollar of profit that can be safely taken out of the territory. It should be emphasized that profit is the desideratum, not sales. Hence sales managers should be taught to think in terms of profit instead of sales.

Service costs, and adjustment costs, alone, have made many markets unprofitable. Bad debts or slow collections have made other markets unprofitable.

Analysis, after the fact, has too often shown that a supposedly profitable territory or class of trade has, instead, contributed to an increase in the expense account. Results for supposedly comparable territories in specific businesses have ranged from losses as high as 70 per cent of sales to profits of the same amount.

The manufacturer of the future will be forced to seek his "natural" market—particular territories, products, or classes of trade—in which he can hold his own against all competition. The day has passed when he could sell in any convenient market, regardless of the encroachment of competitors.

9. *What the sales expense budget does.*—By balancing the sales expense budget with the sales forecast, this "natural" market can be determined in advance. The basic idea of these budgets is to aid a company to attain a predetermined sales goal in a given market at a predetermined expense rate, which naturally results in a definite profit on the effort. The sales expense budget permits sales expense to be set up so that expenditures are anticipated and controlled rather than recorded and analyzed, as in the past. Wastes and threatened losses show up in advance, when the plans are made. For instance, one of the most common wastes is found in compensation of salesmen. Many a salesman whose salary is considered satisfactory, when figured on the basis of his volume alone, is found to be overpaid, or the reverse, when he is measured against the true sales possibilities in his territory. It is waste to keep a

man in a territory when he is not able to work it properly, just as it is waste to keep an ordinarily good producer in a poor territory.

This budget may show that certain sales territories are not adequately covered, while others with equal sales opportunities have too many salesmen. Either condition is obviously inefficient.

Other wastes of a more insidious nature are graphically indicated by this budget. Such short cuts to sales records as sampling, premiums, house-to-house coupon campaigns, free deals, and excessive advertising expenditure, all must be justified by the sales manager before the money is spent. The sales manager who relies on these methods instead of real sales ability often finds this explanation difficult.

Throughout the year, performance is checked against the estimates, just as in any of the other budgets. Any expense, which gets out of line with the budget figure, is automatically brought to the attention of management by the monthly, weekly, and daily reports required from the entire sales organization.

The expense accounts of the salesmen, which they have long viewed as their private domain, are amenable to this control. The extravagant and slightly dishonest men can gradually be brought up to the standards of the better type. Traveling expenses often will be found out of all proportion to either results or possibilities, in the more distant territories, indicating that the company has expanded beyond

its natural market, from a geographical standpoint.

10. *Detail necessary for sales expense control.*—The number of reports and the detail necessary will be governed by the type of business involved. Generally speaking, few data are needed on the uncontrollable expenses, while the more susceptible to control an expense is, the greater the detail that should be secured.

No report should be required for which there is not a definite use. Many data that are now being secured from salesmen might better be secured in summary form from the books of the company. Less laborious report writing will secure a greater measure of coöperation from the salesmen. The figures secured will be more accurate and significant.

The budget of retail selling expense illustrated in Figure 8 shows the length to which such detail in expense can be carried.

It may be said that controllable expenses should be shown in sufficient detail in the budget to allow the fixing of responsibility and the tracing of leaks. So long as these requirements are met, the less detail, the better. As shown in Figure 9, as contrasted with Figure 10, the closer to the actual point of expenditure, the greater the detail.

Figure 9, which is used to summarize the district expenses and compare them with the budget estimates, goes into considerable detail. Reports will be necessary, from those responsible for the charges to the accounts indicated, because any item important

BUDGET OF ALLOWABLE EXPENSE

Retail Selling Expense (Automobile Dealer)

	Per cent to Total Sales	Amount	Actual Total
ADMINISTRATIVE EXPENSE			
Acct. No.			
1 Supervision	1.93	\$ 1,196.60	
2 Clerks and Stenographers	.81	502.20	
3 Rent	1.70	1,054.00	
4 Repairs to Building	.15	93.00	
5 Power, Light, Heat and Water	.31	192.20	
6 Depreciation—General	.25	155.00	
7 General Labor	.34	210.80	
8 Stationery—Office Supplies	.13	80.60	
9 Telephone, Telegraph, Postage	.25	155.00	
10 Traveling and Entertainment	.17	105.40	
11 Legal and Auditing	.07	43.40	
12 Service Vehicle Operation	.04	24.80	
13 Insurance	.42	260.40	
14 City, County and State Taxes	.36	223.20	
15 Miscellaneous Expense	.35	217.00	
Total Administrative	7.28	\$ 4,513.60	
DIRECT EXPENSE			
50 Supervision	1.41	\$ 874.20	
51 Clerks and Stenographers	1.13	700.60	
52 Commission	3.55	2,206.00	
53 Advertising	1.03	638.60	
54 Outside Storage	.13	80.60	
55 Demonstrating	.58	359.60	
56 Guarantee and Policy	1.03	638.60	
57 Fitting and Delivery	.54	334.80	
58 Service Vehicle Operation	.13	80.60	
59 Receiving and Shipping	.21	130.20	
60 Traveling and Entertainment	.17	105.00	
61 Telephone and Telegraph	.07	43.40	
62 General Labor	.51	316.20	
63 Idle Time	.12	74.40	
64 Exhibitions	.02	12.40	
65 Miscellaneous Supplies	.25	155.00	
66 Shop Tools	.07	43.40	
67 Miscellaneous Expense	.42	260.40	
68 Depreciation—Direct	.13	80.60	
69 Corrective Labor	.14	81.80	
Total Direct	11.64	\$ 7,216.40	
GRAND TOTAL EXPENSE	18.92	\$11,730.00	

FIGURE 8—RETAIL SELLING EXPENSE BUDGET

District.....

Year.....

Account No.	January		February		March	
	Esti- mated	Actual	Esti- mated	Actual	Esti- mated	Actual
1.....						
2.....						
3.....						
4.....						
5.....						
Total Sales Salaries						
6.....						
7.....						
8.....						
9.....						
10.....						
11.....						
12.....						
13.....						
14.....						
Total Traveling Expense						
15.....						
16.....						
17.....						
18.....						
19.....						
20.....						
21.....						
22.....						
23.....						
24.....						
25.....						
Total Office Expense						
Total Sales Expense						
Sales in Units.....						
Expense per Unit.....						

FIGURE 9—DISTRICT REPORT SALES EXPENSE SUMMARY

enough to be set up in the budget is important enough for regular reports.

Figure 10 shows the simplified form in which the sales results are given to the higher executives of the company. This type of form is recommended, as sales are included, so that a complete picture is presented.

Year _____		January	February	March
Expense	{ Actual Last Year	.....	.....	.....
	{ Estimated This Year	.....	.....	.....
	{ Actual This Year	.....	.....	.....
Name of District	{ Actual Last Year	.....	.....	.....
	{ Estimated This Year	.....	.....	.....
	{ Actual This Year	.....	.....	.....
Expense per Unit	{ Actual Last Year	.....	.....	.....
	{ Estimated This Year	.....	.....	.....
	{ Actual This Year	.....	.....	.....
Expense	{ Actual Last Year	.....	.....	.....
	{ Estimated This Year	.....	.....	.....
	{ Actual This Year	.....	.....	.....
Name of District	{ Actual Last Year	.....	.....	.....
	{ Estimated This Year	.....	.....	.....
	{ Actual This Year	.....	.....	.....
Expense per Unit	{ Actual Last Year	.....	.....	.....
	{ Estimated This Year	.....	.....	.....
	{ Actual This Year	.....	.....	.....

FIGURE 10—CONDENSED REPORT OF DISTRICTS

It should be noted that the results, even when summarized, are still kept on a district basis. Two districts are shown on the form to indicate that each district is individually shown in this report.

Other columns might well be added to each report, showing the percentage of variation of each actual

figure from the predetermined budget figure. This percentage variation should be shown as plus or minus, or in such a way as to call attention to unsatisfactory trends.

11. *Selling overhead distributed on basis of sales forecast.*—As there is no generally accepted method of handling selling overhead, the so-called uncontrollable costs in selling, an explanation of the prevailing methods is necessary. Of course, it is axiomatic that as much as possible should be charged direct, leaving as little as possible for distribution.

The remaining expense, which cannot be charged direct, may be distributed on the basis of sales. In fact, it has been considered good practice to handle it this way. This method has the advantage of simplicity, but it penalizes the efficient salesman. If a salesman with a quota of \$50,000 sells \$100,000 in goods, the overhead charged against him is doubled. His sales above quota certainly return an increasing profit; the overhead charge should not hide this fact.

Another method is an equal apportionment to the various sales territories or to the different salesmen. This method is, of course, not a sound procedure. Both of the foregoing methods have been used, no doubt, because of their simplicity of application. Neither method is scientific; neither is fair to both the salesman and the business.

The best method is to distribute the selling overhead on the basis of the sales forecast for the territorial unit. The overhead charged bears the same

ratio to the total overhead as the territorial sales forecast does to the total sales forecast. This method, although superficially similar in character to apportionment on the basis of sales, is different. Since our sales forecast was based on the buying power of the territory, the potentialities, this method of apportioning overhead is by far the most equitable. Superior performance is not penalized as under the latter method but, on the contrary, is rewarded.

The overhead charge per unit decreases in the territory to the extent that the budget is exceeded. The local sales manager gains a new respect for the budget procedure, since with an increase over the forecast, the rate of profit increases on each unit. Additional sales effort enables him to show a more than commensurate increase in the profits for the territory. As this system is in line with the general principle of decreasing unit costs with increasing volume, it is recommended.

12. *Local expense rates.*—Adherence to the principles laid down in this chapter enables a manufacturer to establish fair and equitable local expense rates. These local expense rates, although often attempted in the past, have borne little relation to the actual results. The lack of correlation between the estimated and the actual expenses has caused those concerned to lose faith in sales expense control.

Failure has been due generally to the fact that local expense rates were not set up, selling costs were assumed to be uniform, and no provision was

made for adjustment. The sales manager knew that each year he would be asked to cut his expenses a certain percentage, and increase his sales perhaps ten per cent. The new method, of giving him a scientifically determined task in both the sales and sales expense figures, appeals to his sense of fairness. His coöperation is secured in controlling expense as well as in increasing sales.

13. *Packing and shipping expense.*—This expense is frequently included in the sales expense budget. This is not proper unless the sales department has jurisdiction over the packing and shipping department. While the total of these expenses may be considered by the management as one of the costs of distribution, it should not be included in the sales expense budget, which is concerned with cost of sales effort. Every dollar included in the sales expense budget should contribute to sales effort—to pressure brought to bear on the ultimate purchaser, directly or indirectly.

If managerial policy forces the inclusion of packing and shipping expense in this budget, it should be brought in on a summary basis, and then only that part which is chargeable to sales. Packing, for instance, is generally more of a manufacturing charge than a selling expense. The containers in which the goods are shipped, and which are necessary to preserve them in condition to be sold, are a part of the cost of the goods. Such containers are an integral part of manufacturing expense, and do not belong in

the sales expense. Shipping and other expenses involved in handling defective goods come in the same category.

14. *Revision of selling expense budget.*—The preliminary estimates submitted by the local sales managers are revised by measuring them against the various yardsticks discussed in this chapter. The salesmen are measured against their opportunity, and the local expense rate is matched against the proposed expense rate. Appropriate revision is made for any change in sales policy. At the same time, the proposed advertising is weighed along with the other sales plans.

15. *Relation of selling expense to other expenses.*—What the amount of the allowable expense in selling a product should be is a question that has long worried producers, but it is obvious that no general answer can be given. Some products require more selling expense than others, and the price secured should warrant the higher costs. Other lines must practically sell themselves, due to the small margin between cost and a sales price set by competition.

Viewing the entire field, it is generally agreed that selling costs in most instances are too high, but, as Mark Twain once remarked about the weather, "No one does anything about it." Any sales expense over 30 per cent probably indicates some faulty condition.

An overextended market has contributed much to the increase of selling costs. A statement credited

to Herbert Hoover, before he became President, is in point:

Very few producers have the capacity for selling the United States as a whole, but we find many of them trying to do this. Much effort is lost upon some territories which, if properly studied, would fail to show possibilities sufficient to justify the expense of advertising and selling. A great many manufacturers undoubtedly would find that by limiting their efforts to more circumscribed areas and intensifying their sales activities in such areas, they would not only reduce their selling costs but probably would produce a larger volume of business.

REVIEW

Why is sales expense control difficult?

Is sales expense control more necessary than control in production?

Discuss the advantages derived from the budgeting of sales costs on a territorial basis.

What is a "local expense rate"?

What is the relation of selling expense to other expenses?

CHAPTER IX

THE ADVERTISING BUDGET

1. *Modern advertising practice.*—Although this is still the age of advertising, it differs from the earlier periods in marked degree. The business executive no longer believes in the power of advertising to accomplish miracles. He has reached the stage where he has become critical. He now demands facts, not fancy; he insists that advertising space be *bought*, not *sold*, as heretofore. The advertising salesman, who was willing to promise any desired result, has been replaced by the expert space buyer and the modern advertising agency with its experts in every phase of distribution. This change has been brought about by pressure from within the ranks of advertising, as well as pressure from business.

The business man, faced with the rising costs of competitive advertising, has learned that extravagant, unnecessary, or wasteful advertising costs could not be included in the price the consumer pays, and that, in the long run, such payments must be made out of his capital. Moreover, costly experience taught him that all advertising does not pay. Investigation further showed that many concerns were

spending disproportionate amounts for advertising, with a resulting decline in profit on sales, or an increase in selling costs above the general level of the industry.

From within, the stoutest friends of advertising were the first to admit its weaknesses. They have led in the effort to eradicate completely a long prevalent idea that an increased expenditure for advertising is certain to result in a commensurate increase in sales. Advertising is now regarded as only one of the ingredients in the formula for successful marketing.

2. *Relation of advertising cost to other selling costs.*—A frank recognition on the part of the advertising profession that advertising is only one of many selling forces, and not necessarily the most important, is a significant consideration for the future. The justification for treating advertising costs in a separate chapter in this text is the fact that it is often the largest single item of controllable selling expense. Some concerns intrust their entire sales effort in this field to the advertising manager, an executive who works *with* rather than *under* the sales manager. Whatever the relative position of the advertising manager may be, the primary purpose of advertising must not be overlooked. The real purpose of advertising is to sell goods *now* or *later*. All advertising costs are part of the selling expense.

Advertising is used most often to supplement sales effort, but, even where it is used to the exclusion of salesmen, other selling costs are involved. The

proportion of the total selling expense allocated to advertising will vary from year to year, and from product to product, where more than one commodity is handled. No offhand answer as to the proportionate amount of advertising and face-to-face selling effort which should go into the budget can be given. A specific study of each case is necessary. After studying a client's distribution problem, advertising agencies often recommend additional salesmen instead of increased advertising.

3. *Advertising expense must be controlled.*—The National Distribution Conference held at Washington, under the auspices of the Chamber of Commerce of the United States, is authority for the statement that the chief source of waste in advertising is the "lack of coördination between advertising and other phases of the business—production, distribution and finance." This statement is particularly applicable to the coördination of the sales and advertising departments. If they fail to function together, distribution facilities may outstrip advertising, and sales will be lost, while, on the other hand, if advertising outstrips distribution, both money and sales are lost. In the words of a famous marketing counselor, "The sales manager and the advertising manager should be twins." Properly coördinated budgets for both classes of activities will insure the necessary coöperation.

The advertising appropriation is planned to complement the selling effort, since advertising is

designed to aid consumers in finding the goods or services they want. This may mean that a separate appropriation will be set up for each product, and that varying amounts will be spent each month.

Frequently, merchandising plans are prepared to cover more than a period of one year. One large manufacturer, for example, drew up a three-year selling plan, when introducing his new product. Proper budgetary control is essential to the success of such a program. This long-term aspect of advertising will be emphasized far more in the future. It necessarily requires an intelligent projection of sales and advertising budget plans over the period, based on careful preliminary research.

4. *Responsibility for advertising appropriation.*—The recommendations as to the amount to be spent for advertising are usually made, in the first instance, by an advertising agency, if one is employed, or by the sales executive. This should not be a haphazard guess, but the result of a study of all the factors of distribution, which have already been discussed in the chapter on the sales budget.

The plan is then submitted to the advertising manager of the company for revision, comment, and approval. It is his responsibility to fit this recommendation into the other plans of the company, some of which it may not care to divulge to an outside agency. He must secure the approval of the board of directors, or other appropriate authority, on the amount to be spent.

Since the manager selects the advertising agency, he cannot escape responsibility for any phase of the plan. The relative amount of advertising which attempts to develop the sale of specific products, and the relative amount of institutional advertising, the purpose of which is to create goodwill, are determined by him. This decision is of the greatest importance, because the management is often biased in favor of product advertising, on the theory that greater immediate returns are secured.

5. *Determining amount of advertising appropriation.*—A method frequently used in determining the sum to be spent for advertising in the coming year is to take a certain percentage of the sales of the present period. This is a time-honored method, but it has little else to recommend it. Past sales are ancient history, and, while the success of past operations may set an upper limit to the amount available, it by no means follows that it indicates the proper expenditure. It may be advisable to borrow for advertising purposes in isolated cases; in others, it may be good policy to refrain from spending all the funds available.

Future selling and advertising conditions may bear little relation to current conditions. New competition, style changes, the business cycle, and a multitude of other forces may intrude in the future. Business must look forward, not backward.

The foregoing discussion logically leads to the conclusion that the advertising appropriation or budget

should be based on anticipated sales, or, to be more exact, on potential sales. This, the reader will recall, was the basis of the sales estimate. At this time, it must be admitted that not all organizations are in the fortunate position of being able to take advantage of all sales potentialities. But, if they cannot do this for all territories, they can at least attempt it in selected territories.

Concerns introducing new products, or new companies with no previous experience, often use an arbitrary method in determining the amount to be spent. The amount to be spent is governed by the capital available and expediency. An arbitrary appropriation indicates great faith in the power of advertising to influence consumer habits, a faith which the results may or may not justify.

Results of this sort have demonstrated the need of an advertising program as contrasted with advertising at will. Advertising is not something to be taken up and laid down lightly. It is a definite, continuing force in business, and scientific methods must be employed in planning its activity. Potential markets, probable sales demand, and desired objectives must be visualized before allotting the appropriation.

6. *Scope of the appropriation.*—The advertising appropriation should cover every dollar spent to influence the consumer in mass. Many items not ordinarily associated with advertising must be included. The advertising value of a striking label on a can of tomatoes cannot be denied. Advertising costs are

incurred to the extent that labeling or packing goes beyond mere preservation of the goods. They should be included in the appropriation.

Membership in trade associations, payments to public relations counselors, coöperative advertising efforts, and donations to worthy charities are all part of advertising costs and should be provided for in advance. A great deal of the pure research of our large companies results in favorable publicity, which no amount of money could buy, but this element cannot be included in the budget.

Advertising overhead should also be included; the expenses of the department for salaries, supplies, and rent are a legitimate part of the budget. Staff artists and other experts increase the total costs. Also, an amount should be included for test campaigns, if the executives contemplate expenditure of this character.

A reserve item may well be included in the appropriation, to be used where sales fall behind their normal rate of growth, or if some other contingency develops. This method is much better than a last minute request for authorization to spend additional money after an unfavorable situation has developed.

The advertising budget must tell far more than the total amount of money to be spent for publicity. Specifically, it must show when the money is to be spent, on what products, where, and how it is to be applied.

When: Through the appropriation, advertising emphasis may be placed on any desired season or

month. This aspect of the appropriation is of particular importance to the treasurer, since it will show him the financing requirements. This information is obtained by summarizing the total amounts which are to be spent each month on the various products, as shown in Figure 11.

Year _____ DISTRIBUTION OF APPROPRIATION BY MONTHS													
Product	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
#1													
2													
3													
4													
5													
6													
7													
8													
Total													

FIGURE 11—MONTHLY PRODUCT SUMMARY OF ADVERTISING BUDGET

What: Distribution of the advertising budget on a product basis has been partly the result of the cost accountant's effort to allocate advertising costs to the product benefited. It has also been the result of the tendency to appoint brand managers, or executives with full responsibility for results. Under this system, weak brands can be given special attention.

Sales promotion is simplified by this method. A

specific appropriation can be made for the reestablishment of the prestige of a particular brand. The relative results of such effort can be determined more easily, when specific responsibility and attention are given.

APPROPRIATION FOR PRODUCT #1													
TERRITORY <u>Local</u>													
Year _____	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Newspapers <u>Times</u> <u>Despatch</u> <u>Leaders</u>													
General Art Work													
Window Display													
Direct Mail <u>Addressing</u> <u>Printing</u> <u>Art</u>													
Reserve													
Total													

FIGURE 12—INDIVIDUAL PRODUCT APPROPRIATION

The form illustrated in Figure 12 shows the application of an appropriation for a product. These figures are summarized in the form illustrated in Figure 13.

It is obvious that the total product expenditures for the various territories should absorb the total amount available for pushing the particular brand or product, with the exception of the reserve which

may be deemed available. This reserve differs from the general reserve mentioned earlier, which was a precautionary measure, in that this one will be spent, the allocation being determined by developments in the various territories. The form summarizing the total brand expenditures for the various territories is so similar in make-up to the others shown, that it will not be necessary to illustrate it.

Year _____	FINAL APPROPRIATION FOR TERRITORY <u>Local</u>												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Newspapers													
<u>Times</u>													
<u>Dispatch</u>													
<u>Leader</u>													
General Art Work													
Window Display													
Direct Mail													
<u>Addressing</u>													
<u>Printing</u>													
<u>Art</u>													
Reserve													
Total													

FIGURE 13—TERRITORIAL APPROPRIATION COVERING ALL PRODUCTS

Where: With competition for volume and profits forcing a study of the local trading area, it is not surprising to find that the advertising appropriation has fallen into line. It is broken down on a territorial basis, as shown in Figure 13. The result is a summa-

THE ADVERTISING BUDGET

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ADVERTISING APPROPRIATION

Year _____

Distribution	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Newspaper													
Magazine													
Farm Paper													
Trade Paper													
Radio													
Miscellaneous													
Total Space													
Periodical													
Newspaper													
Staff Artists													
Miscellaneous													
Total Art Work													
Periodical													
Newspaper													
Miscellaneous													
Total Engraving													
Catalogues													
Folders													
Total Literature													
Dealers Cuts													
Dealers Helps													
Labelling and Packaging													
Delivery Charges													
Public Relations													
Trade Associations													
Research													
Miscellaneous													
Total Sundry													
Advertising Overhead (in whatever detail required by cost system)													
Reserve													
Grand Total													

FIGURE 14—FORM OF ADVERTISING BUDGET

tion of the specific product budgets for the territory. That is, the figures are merely the total of the items given in the product appropriation on a territorial basis just described.

This form shows the local sales manager just what he may expect in the way of advertising assistance.

How: The importance of distribution of the appropriation to specific media or methods is indicated by the inclusion of such data on the product form and the territorial form. A summary form, in whatever detail is desired, may be prepared either by adding the product or the territory expenditures by media.

From such a statement the advertising manager determines whether the proper balance is being maintained between the various methods of reaching the consumer. Some advertisers switch from magazines to newspapers or from direct mail to some other method without realizing the loss involved. A control, such as suggested, prevents losses due to hasty changes in the method of appeal. A typical form of advertising budget is illustrated in Figure 14.

7. *Checking performance.*—Two different types of checking are involved in the operation of budgetary control in advertising. The first is outward. It is concerned with proper fulfillment of space contracts by the advertising agency which keeps a record of the insertions, space allotted to the advertisement, and such details. If an agency is not used, the advertising department must arrange to do this checking.

Of course, the accounting department which has

a copy of the appropriation will see that the previously approved expenditures are not exceeded without new authorization.

The other checking, which is internal, is concerned with a determination of the results derived from the advertising expenditure. Advertisements may be keyed, specific territories may be canvassed, the general effect in sales noted, and all other developments which can be traced to advertising carefully recorded.

8. *Lack of standard costs in advertising.*—While the advantages of advertising are evident, the science of distribution has not yet reached a point where advertising returns can be calculated with any degree of certainty. Serious study, honesty, and judgment are needed in formulating a probable estimate.

There are no yardsticks by which a contemplated program may be measured; there are no standard or normal costs in advertising. Advertising costs are affected by competition, are related to volume, are linked to the business cycle, and are determined by business policy. The future of this field will be limited only by our ability to collect exact intelligence on the costs and results of advertising.

REVIEW

Is advertising a selling cost?

Why is it imperative to control advertising expense?

Where does the original recommendation as to the advertising appropriation come from?

How is the amount of the advertising appropriation determined? What is its scope?

CHAPTER X

MANUFACTURING BUDGET—PRODUCTION

1. *Need for manufacturing budget.*—Probably in no department of the average manufacturing business has so much progress been made in scientific management as in the production department. It is in this field that the greatest effort has been expended toward operating economies. When competition increased, and selling prices had to be cut, management has endeavored to cut the costs of production correspondingly. Labor resisted reductions in wages, and hence the economy took the form of improvement in processes, employment of labor-saving devices, careful planning, routing, and scheduling. These have been developed in many industries to a point where it might appear that the utmost in this direction has been achieved. An example of such splendid utilization of scientific management in production may be found in the modern automobile plant, where the machine-like procession of movement on the assembly line invites the emulation of manufacturers in all lines of business.

Still, management is far from being satisfied, and constant effort is being expended in devising new

ways, shorter cuts, greater savings, and generally more efficiency, in production. In spite of all that has been done in the producing departments, it is there that losses develop. Probably a large number of business failures have resulted, not so much from lack of efficient manufacturing methods, as from a poor production policy. The failure to see that the policy of the production department must tie in with the general business policy, and the neglect to employ research and budgetary control have led to many evils, such as overexpansion of production facilities, accumulation of inventories, and failure to produce what the public demands. The principle of coördination, around which budgetary control is built, will allow the gains in production efficiency to be more fully reflected in the ultimate showing of profit from operations. It is only through complete coördination that the remedies for the evils mentioned above may be found.

2. *The scope of the production budget.*—The production budget is that part of the manufacturing budget which has to do with the scheduling of operations, the determination of their volume, and the establishment of maximum and minimum finished goods inventory requirements. Its totals and details furnish the basis for the budgets of materials, labor, and manufacturing expense. While expenses are a consideration when this budget is in the course of preparation, yet, as in the case of the sales budget, its results are in terms of volume only, for it is in the

preparation of the production budget that the monthly volume of operations is determined.

It is practically impossible to treat the preparation of the manufacturing budget as one operation, because of the many problems involved. The complete budget of the manufacturing activities of a business involves not only the determination of monthly volume, but also the determination of the expenditures for materials, labor, and manufacturing expenses. Since in the preparation of estimates for materials, labor, and overhead, each element presents a problem requiring lengthy treatment, it seems best to treat them separately, and to refer to the combined volume and expense estimates as the budget of manufacturing.

3. *Methods of production control.*—In theory, production control is either centralized or decentralized, but in practice, one finds all manner of variation between centralized and decentralized control, sometimes favoring one extreme, and at times the other. Since the control of production is necessarily a function of the production budget, it may be well to discuss the methods briefly.

4. *Decentralized production control.*—Many manufacturing organizations, especially the smaller ones, are operating under a decentralized type of control. There is no planning department, as such. The executive in charge of production has under him several foremen, each of whom is held strictly responsible for results in his department. Each foreman

receives a copy of the orders to be manufactured in his department, and he lays all plans for carrying out the manufacturing process. He orders the necessary materials, tools, and supplies. He has full authority to "hire and fire" his own labor. He knows that he is expected to get his work through on time, and that his costs should be kept low. Practically everything is left to his own discretion.

Such a method of organization makes it difficult to obtain coöperation between foremen. Each foreman is likely to resent suggestions, as to how conditions in his department may be bettered, as an unwarranted interference with his czar-like control. Plants have operated successfully under this type of control, but usually where the operations were not so extended as to be beyond the ability of an efficient executive to control, and where the executive was capable of inspiring a common loyalty among all foremen.

This plan is favored, from the standpoint of budgetary control, because of responsibility which it produces in each foreman. He alone must prepare the budget for his department, in this type of organization, and it follows that he will be more likely to live up to it. But individual budgets are of little value unless they form part of a coöordinated whole, and, where foremen unite in planning, a new type of organization is at hand which tends toward centralized control.

5. *Centralized production control.*—In the process

of developing efficiency in production, the tendency has been toward centralized production control. Where a centralized production control system is employed, there is a centralized planning department, which upon receipt of detailed specifications from the engineering department establishes an exact sequence of production operations. This department, rather than the foreman, is in actual control of the work. Orders for raw material come to the purchasing agent from the planning department. Little is left to the initiative of the foreman. Not only is the flow of material and sequence of operations planned from department to department but every operation within each functional department is planned as well. The foreman's function is reduced to that of supervision and making reports to the planning department. The central department not only initiates the flow of production, but follows it through each stage. There are constant comparisons of performance with plans, and correctives are instantly applied where the actual outcome shows divergence from predetermined results.

One may quickly recognize in centralized control an element of successful budgetary control, namely, that of careful planning. A planning department fills a necessary place in budgetary control in any large plant, and, in small plants, the same function must be performed by the executive in charge of production. Centralized production control arranged on the basis discussed above, however, has the disad-

vantage of destroying that initiative on the part of foremen which is so essential to successful budgetary control.

6. *Modified centralized production control.*—Between the two extremes of completely centralized and decentralized production control, we find many modifications. Some of these are far better suited to budgetary control than either of the methods previously discussed. This is particularly true where executives have placed more responsibility upon the foreman, and, instead of having the planning completely centralized, have followed a course midway between the two. Most of these modifications tend to restrict in some way, rather than to enlarge, the functions of the planning department. It is very important to have the planning department make a careful analysis of all orders received, and to schedule the work to be done by each manufacturing department or shop. It is also important to have a department with centralized control coördinate the work of all departments and follow through to ascertain whether plans are carried out. But the detailed planning of the work within the department, as well as the responsibility for expenses incurred, may well be left to competent foremen, who are thus allowed to sign requisitions for materials and have full control of men and machines.

7. *Relation of production control department to production budget.*—The production budget is prepared by the production control department. Where

there is no such department, the executive in charge of production prepares the budget. In either case it is his responsibility, but in the former he has at his service a department fitted to do this work as part of its regular duty. The planning of work is part of budgetary control, and it is also part of production control. Without a sales estimate to work from, the most that the production control department can do is to plan production as orders are received, or to produce for stock according to normal requirements. If, however, a sales estimate has been made as part of a plan of budgetary control, the production control department proceeds to work out a plan of co-ordination of production with sales, which results in a production plan for the entire period of the operating budget.

8. *Coördination of production with sales.*—When the sales estimate is first presented to the production department, it is by no means final. It is a statement in terms of units of product and dollars, which represents the sales possibilities for the budget period. Monthly sales have been translated into delivery dates. The estimate has in fact become an inquiry addressed to the production department asking whether certain merchandise can be delivered each month.

The production department must then carefully go over this estimate to see if it is in line with possibilities as far as production is concerned. The estimate may call for more of a certain product than can be made

with present facilities. Unless production capacity can be increased in some way, it may be that the sales estimate on this product will have to be cut down. Some articles may be called for in such small quantities as to make it impossible to manufacture them at a cost below the sales price. The sales estimate may not call for utilization of some machinery to ordinary capacity, which means that overhead costs will cut down unit profits. All of these difficulties must be taken up, either directly with the budget officer or with the sales manager.

Where the committee arrangement exists, all of the objections and the suggested revision will be discussed by the committee. The result will be the adoption of a revised sales estimate as the sales budget for the period. The revised sales budget then goes to the production department, not as a mere inquiry, but as a requisition upon that department for the delivery of a certain quantity of merchandise each month.

9. *Planning production to meet sales demands.*—There are three possible methods of manufacturing to meet sales demands:

- (a) Manufacturing enough each month to meet the exact requirements of the sales budget
- (b) Dividing the aggregate sales by the number of months in the budget period, and manufacturing an equal quantity each

month, placing the surplus above requirements for delivery in stock

- (c) Not striving for absolute uniformity in production, but trying to keep the factory operating at a fair percentage of capacity each month

Where sales are of comparatively equal volume every month in the year, the condition is ideal, for production may be planned exactly to meet sales. Also, if maximum sales demands are well within the capacity of the plant, there will be no need to accumulate stock to meet the large demands of heavy months. But in many businesses there is a seasonal demand, which greatly increases the demands of one month over those of another. It would be impractical to maintain a plant large enough to take care of these maximum demands, because, during the slack months, the overhead charges on the unused capacity might so increase costs as to leave no profit margin. Nor is it always wise to work overtime during the season of heavy demand, because overtime work is expensive and also tends toward unstable labor conditions.

Where sales are properly planned in advance, a fairly steady rate of operation can often be maintained by manufacturing finished products, or parts for stock, during the slack months, thereby accumulating a sufficient supply to take care of the seasonal demand. This requires more working capital because a larger finished goods inventory ties up funds.

Working capital may quite properly be borrowed from banks for such purposes and repaid as the goods are sold, but this, of course, is a consideration which affects the financial budget.

Some well-known companies have attempted to maintain a steadier rate of production, month by month, through the simple expedient of establishing a lower sales price for the slack months in order to make it worth while for their customers to buy in slack seasons. The advantages of producing at a steady rate, thereby providing labor with steady employment and more fully utilizing plant capacity, often outweigh the lower profits realized by selling at reduced prices. In order that overhead costs be properly absorbed, it may even pay to sell at cost during several months if the plant may thus be kept operating at capacity. The practice of adjusting prices to demand is particularly desirable where goods are produced to order, and where designs have not been so standardized as to permit manufacturing for stock. Of course, if this policy is adopted, the sales estimate will reflect it, and a more even schedule will be presented to the production department.

Fortunate, indeed, is the business which may divide its annual sales requirements by twelve, and manufacture an equal amount each month. But demand is seldom so steady or free from seasonal or other variations. The best that can be done in most cases is to smooth out the production curve as much as possible. In some cases, variation in demand not

only interferes with the manufacture of an equal quantity each month, but it may be uneconomical to schedule production on this basis. This may readily be seen if we consider the requirements of the sales estimate in terms of quantity. It may happen that certain articles are specified in such small quantities, as to make it costly to set up machinery and processes to manufacture one-twelfth of the total quantity each month. Efficiency may cause the company to run the entire requirements in one lot and place the surplus in stock until needed.

A business which deals with staple articles is more likely to be able to plan production on a more even basis. In such lines, the variation from month to month will be either so slight or may be so much more accurately predicted that, if the surplus of one month or one period is placed in stock, the chances are that it will be utilized the following month or period and the inventory can be kept within reasonable limits. Such a plan may be extended even to the point of maintaining uniform production and putting pressure on the sales department to dispose of the product.

The costs and risks attendant upon the maintenance of large finished goods inventories often causes many organizations to compromise. During slack seasons, the plant is not closed down, nor is it operated at a rate exactly equal to demand. A careful production plan is worked out which provides for meeting current demand and for the addition of a

small quantity to stock. The latter quantity is steadily increased as the peak of seasonal demand draws near. Parts which are not likely to be affected by style changes or obsolescence are also manufactured and put in stock to be used later. In this way, the average inventory is kept down to reasonable limits and the plant is at all times manufacturing enough to absorb overhead costs without making the charge unduly high on each unit of product. Skilled labor, at least, is given fairly steady employment which avoids both the expense of hiring new men in rush periods and the inefficiencies which result from a high labor turnover.

10. *Difficulty of achieving steady production rate.*—Even though it would be possible to manufacture at a steady rate, and to allow surplus stock to accumulate until needed to fill the demand in heavy months, the financial cost of doing so may be prohibitive. Storage costs, where the product is bulky, may be large. If the company maintains its own warehouse, there is the cost of the capital invested to be added to the cost of the goods. If storage space is leased, there is the additional charge of rent. Stocks often deteriorate or become obsolete and the depreciation from this source adds to the expense. Insurance must be carried against fire and other hazards.

In addition, there will be an increase in handling charges where goods must be stored before shipment. All of these costs must be considered against the savings of steady production and against the ad-

vantages gained thereby, before a definite policy can be adopted. Obviously these costs must be reflected in the budget.

Aside from the expense factor, there is the difficulty of anticipating such contingencies as changes in style. While it is possible, for example, to prepare a sales estimate in the manufacture of clothing, yet definite manufacturing plans cannot be worked out until the orders received furnish a definite indication of the style trend. Hence, in such circumstances, no attempt is made to manufacture for stock, because of the danger of loss.

11. *Achieving production stability through product diversification.*—The nature of the product often prevents the accumulation of a finished goods inventory. Both the candy and the ice cream businesses are seasonal, but, in neither case can stocks be accumulated in dull seasons to meet peak demands. Here an expedient consists of having two lines which complement each other. The demand for candy is heavier during the winter months, when demand for ice cream is light, and a concern engaging in both businesses may possibly achieve a fair stability of production. It is of course far better if the same machinery can be used for both lines. A typical case might be a brass factory whose main business was plumbing supplies but which might manufacture novelties such as brass furniture, smoking stands, and the like for the holiday trade when demand for plumbing supplies is light. Research

may disclose another use for the principal product or for some by-product which will give employment during what would otherwise be a slack season. Manifestly, the budget program depends upon considerations such as those mentioned above.

12. *Finished stock control.*—Where goods are to be shipped from stock or where they are being accumulated to meet seasonal requirements, close control of the finished goods inventory is necessary to

Product _____			Maximum Stock _____		
Number _____			Minimum Stock _____		
Standard Quantity to order into Factory _____					

FACTORY ORDERS			RECEIVED FROM FACTORY			SHIPMENT		ON HAND	APPROPRIATED TO ORDER	BALANCE ON HAND
Date	Quantity	Order No.	Date	Quantity	Order No.	Date	Quantity			

FIGURE 15—PERPETUAL FINISHED GOODS INVENTORY FORM

make sure that the budget is being lived up to and that variation in demand from that anticipated has not led to overaccumulation or depletion of stocks. If either event has occurred, prompt adjustment of production plans must be made to avoid either loss from depreciation of slow-moving stock or of customers' goodwill. To this end a perpetual inventory

should be maintained, as illustrated in Figure 15.

It is customary to establish a minimum point below which finished stock requirements are not allowed to fall. This minimum requirement is small, where the product is being constantly manufactured, and consists in such cases of a "margin of safety" to take care of emergencies such as shut-downs or unexpected increases in sales. Only experience will show the correct amount to take care of such needs and it may vary from season to season.

Where the product is produced for stock at intermittent intervals, the length of the processing period influences the size of the minimum inventory. Sufficient stock must always be on hand to take care of deliveries from the time the factory orders are placed in production until a new lot reaches the warehouse. In the case of products manufactured intermittently, a standard quantity to order is established which is the amount ordered from the factory when the point of minimum inventory is reached. The standard quantity to order is governed by the maximum amount of inventory it is desired to have on hand, except in cases where it would be uneconomical to produce less than a certain quantity. In such cases, the quantity to order is determined by the latter circumstances.

13. *The economical lot.*—Where products are produced but intermittently, and that is frequently the case where a complete line of varying sizes and styles is manufactured, care should be exercised in

adjusting manufacturing plans to sales estimates so as to make certain that goods are ordered from the factory in economical lots. Undesirable as it may be to increase the size of the finished goods inventory, it is often less expensive to maintain stocks for several months in a particular size or style than it is to set up machinery and rearrange production schedules to produce only a small quantity. Production costs decline as quantity increases, and the cost of setting up the particular machinery or process is not large when spread over many units.

If, however, only a few units are produced at one time, costs per unit may be too high to allow sales at a profit. It will be seen that in correlating production and sales, a very careful check must be made upon costs, inventory requirements, types of process and length of process. This indicates clearly the need for an adequate cost system.

14. *Adjustment for changing conditions.*—The production budget must be flexible. It must be so arranged as to be capable of instant adjustment to meet changes in demand. In the clothing business, where definite knowledge of the styles that are to be most popular is not known until the salesmen are actually on the road, a production budget can be set only in general terms and details must be left to be adjusted as orders show the trends. In other cases, however, style concerns only some feature of the product which can be readily adjusted as the demand points the way, and the production of parts

can go on at a regular pace, so that adjustment becomes a mere detail easily taken care of as the product is assembled for shipment.

Price adjustments often present a serious problem. A cut in price by a competitor leaves a manufacturer with three alternatives:

- (a) To maintain prices and face reduced volume
- (b) To meet the price cut with little change in volume
- (c) To cut prices to still lower levels in an attempt to increase volume

If prices are maintained as planned, volume will be reduced, unless by extensive advertising the public can be convinced of the superior merit of the product. With reduced volume, profits are doubly curtailed, for unit costs rise as volume declines, and, of course, the less sold, the smaller the gross return from sales. Unless volume can be maintained, rapid adjustment must be made in production schedules. Otherwise stocks will soon exceed the maximum point and still greater losses will develop.

Should competition be met with equal price reductions, the chances are that the same volume can be maintained and no change in the production schedule will be necessary. Adjustment must then be made in the process, and perhaps in the type of material, in an effort to cut costs. While no change in the production schedule is necessary, the steps taken by com-

petitors in price reduction may presage further reductions, and it may be prudent carefully to check over the quantities of both finished goods and raw materials in stores to prevent accumulation in what may prove to be a falling market.

Where the manufacturer decides to meet price cuts by reducing prices to still lower levels, it must be with one of two plans in mind: (a) to force a competitor to abandon the price war and restore prices to original levels; or (b) so to increase volume as to maintain profits through the lower unit costs attendant on large quantity production. In both cases, production schedules are bound to be upset and must be adjusted to meet the new demand.

Experience in planning allows for quick adjustment and also reduces the number of adjustments necessary because, in many cases, the sales department in making its estimates is able to anticipate just such conditions as are outlined above.

15. *Successful production budgeting.*—"Hand to mouth" buying by retailers and jobbers has placed the inventory problem squarely at the door of the manufacturer. It has become necessary to consider carefully the manner and means of coördinating production and sales, particularly with regard to inventories. Where sales are carefully planned, it is possible, in many cases, to cut the finished goods inventories to a minimum. Since finished goods inventories represent a large capital outlay, having labor and overhead costs annexed to those of raw

material, any procedure which will reduce the amount of invested capital is well worth consideration.

In an ideal situation, raw material is being fed into the plant at a steady rate, while finished goods are leaving without delay. This is the ideal of successful production budgeting. It has been accomplished by several of the leading automobile companies and, with the extension of budgetary control throughout industry generally, we may hope to find conditions improved. As an indication of progress in this direction, we have only to compare the inventories of 1920 with those of today. In the former case, they were large, and losses were sustained in the decline which followed, while in the latter case, the general conditions in industry from the standpoint of inventories are sound.

REVIEW

Outline the scope of the production budget.

What type of production control lends itself to successful budgetary control?

Describe the methods of manufacturing to meet sales demands.

What expedients are sometimes resorted to to maintain production in slack seasons?

In the case of intermittent production, what important consideration must be taken in adjusting production plans to the sales forecast?

Is flexibility essential to the production budget? Why?

CHAPTER XI

MANUFACTURING BUDGET—MATERIALS AND LABOR

1. *Materials and labor are main costs.*—The costs of material and labor are termed *direct costs*, since they are directly chargeable to the product on a definite unit basis. For instance, in the total cost of a sewing machine, a certain portion is made up of material and a certain portion consists of labor. Hence the material cost is the dollar value of the materials that went into the product and the labor cost is the amount expended in dollars for labor. Sometimes these cost items are referred to as *direct material* and *direct labor* to distinguish them from *indirect material* and *indirect labor*, which are items included in the term *manufacturing expense* or *overhead*.

The amount of material and labor utilized, then, will vary directly with the number of units manufactured. Should manufacturing cease, all such expenditures stop. At first thought it may seem that no real problem exists in the budgeting of materials and labor. It must be remembered, however, that materials and labor, like sales, are not entirely within the control of management and, even though exact

quantities are known, there still remains the problem of getting material on time and having labor available at a cost which will allow of profit in manufacture.

In addition it must be emphasized that material and labor are expense items which involve a constant expenditure of cash. The treasurer relies upon a carefully worked out schedule of purchases and labor requirements to work out a financial budget for the ensuing period. Just as it is necessary to plan sales and work out production schedules in advance of production, careful plans for material and labor requirements are a necessary part of the budget procedure. Even the smaller manufacturing plants have been able to forecast such needs within a very close degree of accuracy, and thereby have stabilized operations to a marked degree.

2. *The purchasing department.*—Every business does not maintain a separate purchasing department. In many organizations, materials are purchased by the production superintendent. In others, there will be a purchasing agent, but the department itself is regarded as a division of the manufacturing department. The last described arrangement often exists in smaller plants, but in a larger plant the purchasing function is handled by a separate and independent department. This separation is necessary, if for no other reason than the size and scope of the purchasing activities. Since materials are often the largest single item of cost in a product and since they

may be obtained from many different sources, purchases are more efficiently handled by an individual who is able to concentrate on this phase of the business activity.

The profits may often be increased through the fortuitous handling of material purchases, and the person in charge should not be merely a clerk who translates the requisitions of the production department into orders for material. He must be able to forecast markets, understand the law of contracts, and have a thorough knowledge of the processes utilized in manufacturing the products. He should be responsible for the materials or purchases budget.

3. *Basis for materials budget.*—The production department in its budget shows the exact amount of each product to be produced during the budget period. This budget acts as a requisition upon the purchasing department for a given quantity of material that must be available in time to feed the machines and thereby enable the production department to maintain its planned schedule. Obviously, the existence of a production budget planned for, say, a year in advance is of great help to the purchasing department, for it allows a study of the market and the planning of purchasing on the most economical basis.

While the production budget shows the total production of each item by weeks or months, it does not show the detailed material specifications, that is, the exact amount and type of material to be used in

manufacture. These elements should be obtained for both old and new products. The specifications are turned over to the purchasing department where they are filed in a convenient card file for ready reference. The purchasing department can be of material assistance in the design of products by having complete information available as to the various kinds and qualities of material and the customary sizes and standards.

The first step in the preparation of materials budgets is to determine from the production budget and the specification of material the amount of material needed for each month of the budget period. The next step is to decide upon the maximum and minimum raw material inventory it is desired to keep on hand, and, finally, to plan purchases in such a way as to insure material being on hand.

4. *Quantity purchases*.—Supplies often may be purchased at apparent savings through buying in carload lots or similar large quantities. The saving is often more apparent than real. Before a real measure of the actual saving is to be had, there are several factors to be considered:

- (a) The cost of capital to be tied up in raw material inventory, say from 5 to 8 per cent
- (b) The cost of capital invested in a storage space
- (c) Rent paid for warehousing if space is leased

- (d) Cost of insurance on inventory
- (e) Additional handling charges
- (f) Depreciation of inventory
- (g) Risk of price depreciation

Experience has shown that the cost of carrying raw material inventories is likely to average from 10 to 15 per cent and sometimes as high as 20 per cent without considering the risk of price depreciation. This latter factor has a decided bearing upon the adoption of a policy of making quantity purchases, and, for the smaller concern at least, such a policy may be dangerous. It is not a real function of any manufacturing organization to seek a profit through price appreciation in materials, but rather from the conversion of raw products to manufactured products in a more useful state. It is one thing to plan purchases so as to insure profit on sales contracts already made, or in immediate contemplation, and another to speculate deliberately in raw materials.

The large business may often handle the bulk of its purchases in large quantities because of the magnitude of its operations, moving material brought to the plant in carload lots directly into production. In such cases, the question of quantity purchases for stock does not arise, although future contracts, often for six months ahead, are a factor that must be considered.

Quantity purchases may require a larger amount of working capital to be invested in raw materials

than is economical, because a saving in this factor may be at the expense of a more profitable utilization of financial resources in other ways. On the whole, the tendency seems to be to purchase to meet requirements and to avoid as far as possible the carrying of large inventories that result in slower capital turnover.

5. *Maximum and minimum material inventories.*—As in the case of the finished goods inventory, it is customary to establish maximum and minimum raw material inventory limits. The amount of minimum inventory to be kept on hand depends on two factors: the consumption per week or per month of the various products, and the length of time required to replenish stocks.

To illustrate, assume that it takes five weeks to secure the delivery of materials for which the demand is 200 units per week. To determine the quantity that should always be available, that is, the aggregate of the amount on hand, the amount in transit, and the amount on order, multiply the rate of 200 per week by the number of weeks required to replenish stocks, or 5. Hence the amount available should never fall below 1,000 units.

But such a method does not provide for temporary unanticipated increases in production or for an interruption in transportation or other emergencies. In order to provide for such emergencies, one company adopted the following rules for material control:

- (a) Determine the minimum stock by multiplying the consumption rate in units per week by the length of time required to replenish the stock in weeks. For example: $200 \text{ per week} \times 5 \text{ weeks} = 1,000 \text{ units}$
- (b) The maximum available shall not exceed twice the minimum. Therefore the maximum would be: $1,000 \times 2 = 2,000 \text{ units}$
- (c) Add to the minimum, one-half of the minimum to secure the order point, i.e., $1,000 + 500 = 1,500 \text{ units}$
- (d) When the available stock (on hand and on order) falls to 1,500, place an additional order for 300.

This provides for a constant reserve stock of 500 units to take care of emergencies and, therefore, insures the maintenance of the manufacturing schedule, while at the same time the maximum amount of investment in raw material can be estimated. The business which adopted the above form of material control cut down its material inventory investment by 70 per cent in two years.

In a previous section, the possibility of quantity purchase was discussed. Obviously, such procedure does not make for efficient inventory control because stocks on hand do not answer to a formula. However, where such purchases are financially expedient, that is, where the business can realize greater profit by purchasing in larger quantities than needed to maintain planned production schedules, and where the funds are available for the purpose, there is no reason why they may not be budgeted. It means simply that maximum stocks will be increased and

that greater quantities will be purchased when the reorder point is reached.

6. *Purchasing to the business cycle.*—Commodity price forecasting applied to the purchasing of materials will do much to smooth the fluctuations in general business as well as conserve the profits of the individual unit.

An example of what has been accomplished along this line by the American Radiator Company is shown in the following quotation from an article by C. M. Woolley, the president of the company:

To go back to the beginning, we first became interested in the theory of the business cycle after the panic of 1893. Study convinced us that it was more than a theory. It was a fact. We noted the technique of the Marshall Fields, Andrew Carnegies, and others who did their big building immediately following panics. Our company slowly developed a scheme of working under the principles of the business cycle, and by 1899 we had put into effect a system of charting from the available statistics of business and financial movements.

Pig iron is one of the chief elements of our finished product. In August, 1907, our charts showed us that the price of pig iron had risen from a low point of approximately \$10 a ton in 1904 to a little over \$26 a ton. Interest rates had also risen to a prohibitive point and the general price structure was up in the clouds.

At a meeting of our board of directors August 2, 1907, we took account of these facts that our charts showed us so graphically and decided that we would set our house in order for the coming storm. For it was plain to us from our charts that inflation had gone to such an extent that a panic was imminent. The banking system of that period, lacking the essential elements of elasticity, was rapidly reach-

ing the breaking point. It was obvious that the credit burden was soon to become disproportionate to the ability of that system to attend the strain.

We proceeded immediately to liquidate our inventories, cut down production, pay our debts, and buy only on a day-to-day basis. The panic came in October, three months after we had been able to predict it. The end of the year found us with debts paid and our inventories relieved of the load of high cost material. We not only came through the storm, but we were ready to take advantage of the first signs of revival and to help the revival along. And if the number of business concerns employing this method of stabilization can be increased, it will check the dangerous peak, support prosperity and lessen the tragic dip into depression.

After the 1907 panic, pig iron went down to \$14 a ton and remained substantially at that figure until early in 1915. The war had come on in the meantime, bringing depression with it. People were saying that the depression would last indefinitely, at least for the period of the war. The iron and steel business was especially hard hit. But our charts showed us that, although the price of pig iron remained stationary, production was increasing. In other words, in the face of the pessimistic prophecies the demand was growing.

We decided that then was the time to buy pig iron. In February, 1915, we converted a large part of our cash reserves into pig iron reserve. We bought pig iron and stored it. Two weeks after we had made our contracts the price of pig iron jumped 50 cents a ton and from then on it advanced steadily until it reached \$55 a ton. We bought in the market for our day-to-day needs, only nibbling at our reserves until the price reached \$44 a ton, when we began using our reserve stock.

When America entered the war and the Government controlled certain commodity prices, pig iron went back to \$33 a ton, where it stood when Government control ended. After the Government ceased price control, pig iron went

down to \$26.75, and then up again until it stood at the general level of \$46 a ton in July, 1920. We knew of instances in which bonuses brought the price up to \$56 a ton, but our charts showed the general level of \$46 a ton. At the same time we saw interest rates at $8\frac{1}{2}$, 9, and 10 per cent, and prices generally greatly inflated.

Once more our directors decided that depression was in sight. Once more we liquidated our inventories, paid our debts, cut down production, and got ready for the storm. We had come, by experience which brought understanding, to place implicit reliance upon our ability accurately to forecast the logical trend of finance and business by skillful interpretations of our economic charts. The business cycle was no longer a theory. It became for us a veritable compass to guide us through the gathering mists of depression.

It is well for the person who is attempting to plan purchasing policy to construct charts of the price movements over a period of years of the commodities used by his business. These charts may be studied in relation to charts of general business activity over a period of years and a fair idea can be gained as to future trends by observing what has happened in the past. Especially valuable information would be shown, if corresponding charts were kept of activities directly affecting the demand and supply of these commodities. Skill here is a matter of careful study and experience. Where the financial resources of the business permit, it is undoubtedly wise to plan purchases with regard to price movements provided this is done upon the basis of careful study and as the result of intelligent business forecasting. Snap judgment and guess work in purchasing are mere

gambling. A form of purchasing budget is shown in Figure 16. By the use of such a system, the proposed plans can be clearly laid down.

7. *Financial nature of materials budget.*—Because of the fact that material purchases represent a heavy outlay of money, the material budget must be set in such a way as to show the amount in dollars to be expended each month. There must be complete coördination between the financial department and the purchasing department. The purchasing agent, not the treasurer, negotiates contracts for materials and the purchase terms, whether cash or credit, are a definite part of all such contracts. Full authorization for expenditure must be made in advance and this is best done in the final coördination of all budgets. Hence the preliminary purchase estimate, like all other estimates heretofore discussed, is subject to revision in terms of financial expediency before final adoption. Before preparing the preliminary estimate, however, the treasurer, who is in possession of estimates of income from sales and the production schedule, may be able to give suggestions as to the availability of cash that will be helpful in avoiding drastic revision before final adoption.

8. *Form of materials budget.*—Forms utilized in any budget procedure are usually adapted to fit in with the accounting system and vary according to the type of business. For this reason it is useless to discuss them in detail or to draw up a set of forms for this purpose. In preparing the material budget,

however, the usual information required to be shown may be summarized as follows:

- (a) Type of material
- (b) Inventory beginning of month
- (c) Estimated amount to be used during month
- (d) Purchases during month
- (e) Quantity on hand at end of month

It is customary to show the estimates both in units and dollars, so that the financial department will have a material budget showing not only monthly expenditures but the dollar value of the raw material inventory.

It may be asked, how can dollar values be entered where prices are subject to market fluctuation or dependent upon contracts still to be made? For purposes of estimating, averages can be used or the results of the commodity price forecast previously mentioned can be embodied in the material estimate. In some instances, where the "standard cost system" of cost accounting is used, standard material costs are established for a year in advance based upon averages and forecasts. These standards are used throughout the cost accounting system and the actual results are carefully noted and adjusted.

9. *Result of materials budget.*—The application of budgetary control to material purchases results in decided advantages to the business. These may be summarized as follows:

- (a) Reduction of raw material inventories
- (b) Production uninterrupted by material shortages
- (c) Purchases can be made in most economical quantities
- (d) Enables treasurer to plan to meet financial requirements

10. *Necessity for estimating labor requirements.*— Along with materials, labor represents in most instances a very large part of manufacturing costs. The cost of labor must be reduced to a unit basis before it can be ascertained whether a profit is being made on each unit of product sold. Hence at the very outset, even before definite sales programs can be worked out, labor as well as all other costs applicable to the product must be estimated. The constant weekly outgo of cash for payroll purposes must be provided for. An estimate of labor requirements translated into payroll estimates is a necessity for the treasurer, if he is to be ready to meet payrolls. Labor, particularly skilled labor, cannot be obtained with the readiness with which the purchasing agent may purchase a car of pig iron. At least the minimum staff must be engaged and kept busy during practically the entire year or during the customary season, otherwise the business may find it necessary to use unskilled men on jobs calling for skill with resultant losses, or it may have to offer higher wages to attract men from other industries.

11. *Direct and indirect labor.*—Not all labor costs can be charged directly against the product. As in the case of materials, where items such as waste and oil are indirect costs, foremen's salaries, wages of sweepers, grinders, and tool men are classified as indirect charges. Indirect labor forms a part of the general manufacturing expense or burden that is allocated to the product on some percentage basis. Direct labor, on the other hand, represents labor applied directly upon the product either by hand or by machine operators.

12. *Wage-payment plans may complicate labor cost estimates.*—At first thought, the estimating of direct labor costs may seem a simple procedure. Essentially all it amounts to is making an analysis of each type of product to ascertain the labor expended upon each unit. Assume that a certain product goes through five processes each of which takes two hours. If the rate that is paid for each process is \$.75 per hour, the labor cost is \$7.50 for each unit. Multiply this by the budgeted production and the total labor cost for each unit is ascertained. But such simplicity does not always exist.

There are basically two types of wage systems, day rate and piece rate. Of course, the oldest and the most generally used is the day rate. Under this plan, each laborer receives a definite rate per hour or per day with perhaps an increased rate for overtime work. Manual labor is usually paid by the hour, while clerical work is paid on a weekly or monthly

basis. Under this system the employer rarely obtains the full productive capacity of the workman, since a workman on a day rate seldom gives his best efforts. The rate of production of individual workers is more likely to vary from day to day; hence it is more difficult to make proper unit cost estimates. From the point of view of the laborer, there are at least two disadvantages to a flat day rate. Poor or lazy workers receive the same pay as efficient men and, because of the lack of personal element in the larger businesses of today, the employer is unable to check up on the efforts of men by personal observation as in the past and the records of each day's work do not aid him in this respect. There is, moreover, no incentive to improve quality or increase output, a condition which tends in time to discourage the worker.

Piece rates in their simplest form provide that the laborer receive a fixed rate per unit produced with no day wage guaranty. Rates are established on the basis of time studies. Obviously such rates, if fairly set, give the employee an incentive to increase his production and, from the standpoint of cost estimates, provide a very easy method of estimating direct labor costs. However, there is seldom a plant where all work can be handled on a piece rate basis. Also there are many complications introduced to modify the piecework plan. The most common of these is the establishment of a combination of day rate and piece rate. There are many plans which

have been worked out, all of which make the job of labor estimating more or less difficult because they contain contingent features.

A modern development is the group wage plan used in related jobs in which team work can be fostered. Costs are not figured by the job but by the product of the group. By multiplying the time required to complete a given unit by the wage rate of the group producing it, the labor cost of each unit may be determined.

Each of the plans has advantages and disadvantages. Some are wholly impractical in some lines of work and each has its enthusiastic proponents. However, discussion of the merits of each plan does not come properly under this subject. They are merely cited here to show that the estimating of labor costs may not be so simple as it might first appear. But when experience has been had and proper cost records worked out, a fair degree of accuracy can be reached.

13. *Estimating labor costs.*—As indicated above, experience in keeping cost records is the best possible aid in preparing labor cost estimates. In all estimating, a unit cost basis must be arrived at. Where costs are contingent upon workers achieving a certain rate of production, it is impossible on account of the variability of the human element to say that one unit of product will actually cost the same as another. It is possible, however, to ascertain an average cost which will be accurate, because what is

lost on one unit will be gained on another. To establish a basis for predetermining such costs, test runs can be made or careful account can be kept of the cost of labor applied to, say, 1,000 units as they go through the factory. If such tests are made under average conditions, the figures obtained can be established as a standard and estimates made therefrom.

If the "standard cost system" is used, these standards are entered on standard cost cards. A separate cost card is made for each part going into the finished product. This card contains not only the standard labor cost, but a standard material and a standard manufacturing expense cost as well. To find the standard cost of a finished product, the figures from the cards are posted to a master sheet. These standards are used for all estimates and pricing operations. At the end of the job or period, or daily if deemed expedient, actual costs are compared with standard costs.

Estimates are made for budget purposes not on the basis of a normal situation, but on the basis of what is actually expected. If labor costs are expected to increase, the budget costs will take this into account. Budgeted costs do not appear in the cost books, but the actual results, when obtained from the cost records, are checked against the budget costs.

14. *Responsibility for the labor unit.*—The planning department in a manufacturing organization is usually responsible for the estimate of the labor re-

is broken down in detail so that each operating department has a definite budget showing the volume expected, the number of labor hours, and the cost. Each foreman then has a responsible part in meeting the budget. Under the best of control systems, foremen are advised daily as to variations from this budget so that rapid correction of errors can be made.

16. *Public interest in the labor budget.*—While the public is interested in the welfare of all legitimate business, the public interest in labor is particularly keen because of the human element involved. Budgeting of labor requirements results in steadier employment and promotes among workmen an interest and pride in achievement that makes for contentment and lack of labor unrest. Especially beneficial is the policy of distributing production on as even a basis as practical, month by month throughout the year. Such a practice usually results in better trade conditions in the territory, for workmen receive a steadier income. The business itself is often benefited by lower aggregate wage costs in steady production because heavy seasonal manufacturing results in payment of overtime and general labor inefficiency.

17. *Control of labor budget.*—To achieve proper control of the labor budget, responsibility for its enforcement may be placed squarely upon the departmental foremen. The wise foreman will not use the budget as a whip but will try to inspire in his men a feeling of personal responsibility for the part he plays in the maintenance of departmental budget

standards. There are many instances where charts of daily performances of departments have created such a friendly rivalry between departments that each workman appeared to be as interested as the management in daily results shown by the chart.

The most important feature in labor cost control is the making of daily reports so that foremen and others concerned can apply corrective measures promptly. To the practical foreman, a report on the labor cost of an operation which took place a week ago is a useless procedure. He cannot recall the error or check the cause. But if he knows the report will be in the hands of the production superintendent the following morning, he will be alert to catch the error. If he has not noticed it, the loss for one day will not be considerable and he can see that it is not repeated. Losses in labor are of two kinds: inefficiency of men on day rate, and idle time losses due to breakdowns or faulty production scheduling. The former is a matter of discipline, the latter of procedure.

18. *Results of labor budgeting.*—The results of labor budgeting may be summed up as follows:

- (a) It insures adequate supply of labor
- (b) It discloses errors in wage payment plans
- (c) It furnishes the treasurer with an estimate of payroll requirements
- (d) It shows up inefficiencies of labor in time to avoid large losses

- (e) It benefits the public generally through giving workmen steadier employment.

REVIEW

What is the basis of the materials budget?

Summarize the advantages derived from a materials budget.

Why is a labor budget necessary?

Is the public interested in any way in the labor budget?

Discuss the results of labor budgeting.

CHAPTER XII

MANUFACTURING EXPENSE BUDGET

1. *Nature of manufacturing expense.*—Manufacturing expense is often referred to as factory overhead, factory burden, or simply overhead or burden. It comprises those expenses of operation which do not vary directly with the number of units of product produced. In this respect, manufacturing expense differs from material and labor, because in every unit of product the amount of material and labor expense is uniform regardless of whether the rate of production is two or twenty per hour or the monthly volume 1,000 or 2,400. If the labor cost of producing ten units is \$20, the labor cost of one thousand units will be \$2,000. In the case of manufacturing expense, however, the overhead incurred while producing two units of product might be \$10 or \$5 per unit, while if 100 units were produced in the same period of time the burden may be as low as \$5 divided by 100, or \$.05 per unit.

The above example presents the extreme case where all items of overhead expense are made up of fixed or non-variable items. Manufacturing expense comprises such items as superintendent's and foremen's salaries, maintenance, heat, power and light,

waste, oil, small tools, and other manufacturing supplies and indirect labor items. It is apparent that some of these items are variable, and some relatively fixed in nature.

2. *Many items of manufacturing expense relatively fixed in nature.*—Many items of the total of factory burden remain constant regardless of volume. For instance, the salaries of the foremen and the works manager, the rent or investment charge for space occupied in all probability would remain practically constant as long as the plant was in operation. Other items of expense are affected in different degrees by the production schedule. Items such as factory, clerk hire, waste, or oil, would be reduced somewhat if production fell below normal, and a slight increase might reasonably be expected if operations increased above normal. None of these variable items, however, are likely to show the same degree of increase nor will they vary in exactly the same degree as production varies. Five factory clerks, for instance, might do the work required in a factory producing, say, 5,000 units per month. Perhaps the same number of clerks could take care of an increase of 1,500 units. Beyond that point, however, a new man might be necessary and as production increased the cost would be still further increased.

3. *Cost accounting practice with regard to manufacturing expense.*—Wherever possible, the cost accountant endeavors to find a basis for charging to the product all costs incurred in manufacture. This

holds true whether the cost be direct or indirect. In a properly departmentalized plant, this may best be done by charging each department with a certain proportion of the manufacturing expense according to some predetermined rate.

There are several bases upon which such distribution can be made. Usually it will be found that different departments require different bases in order to get an accurate distribution. There are always some items of overhead which are easily handled. Some of these may be listed with a brief statement of procedure in distribution.

RENT: Distributed to each department on a square foot basis.

PLANT INVESTMENT COST—BUILDINGS: Distributed on square foot basis.

EQUIPMENT: According to the proportion the equipment in the department bears to the total.

FIRE INSURANCE: Proportionate value of assets employed in the department to the value of total assets.

DEPRECIATION: According to actual charges on departmental assets as shown by a plant and equipment ledger.

There are other items of the non-variable classification which can be charged directly against each department on an equitable basis. Where this can be done no real problem is involved. Variable items, however, present a problem with which cost account-

ants have contended for years. Several methods have been devised and the four more common plans may be named and briefly described.

4. *Direct material cost method of distribution.*—Here it is assumed that there is a direct relationship between the cost of direct material consumed and the indirect expenses incurred in connection with the manufacturing process. Manufacturing expenses under this plan are distributed as a percentage on the direct material that enters into the product.

5. *Direct labor cost method of distribution.*—This method is one of the oldest and is extremely simple. It is assumed under the plan that there is a direct relationship between the amount of wages paid to direct labor and the indirect expenses incurred in manufacturing. Distribution is on the basis of a percentage of direct labor cost.

6. *Direct labor-hour plan of distribution.*—This plan is often favored because it introduces the time element. A rate is established by dividing the total labor-hours for a test period by the actual manufacturing expense incurred for the period. The total units of product produced during the period are then divided into the number of direct labor-hours for the period, which gives the number of direct labor-hours per unit of product. The last-named amount is multiplied by the determined rate in order to get the manufacturing expense per unit. Each department is responsible for an amount of manufacturing expense obtained by multiplying total direct labor-

hours in the department in a given period by the determined rate.

7. *Machine-rate method of distribution.*—In factories where most of the work is done by machines, the machine-hour method of expense distribution is often employed because it gives weight to the manufacturing service rendered by machines. It assumes that the greater part of manufacturing expenses are incurred in some proportion to the operating hours of the machines rather than to the passage of time. Production centers are established for each group of machines performing similar work or one complete operation. Accounts are maintained for each production center to which all expenses incurred in the operation of such centers are charged. The total of these expenses for a given period divided by the number of machine hours at a given center for the same period gives the machine-hour rate. This hourly rate must be applied to each job using the tool or process in the particular production center.

There are other methods and variations of these methods, all of which are technical features of cost accounting beyond the scope of this work. Time and experimentation determine the basis for the method required. The budget officer is interested in the method of overhead distribution because he must obtain the most accurate basis for the predetermination of the amount of general manufacturing expense that should be placed in each departmental budget.

8. *Difficulty in utilizing burden rates in budgeting.*—But at best these cost accounting practices are expedients or approximations. In practice, the rates are frequently computed on a so-called normal basis, that is, the relation of manufacturing expense items to some unit such as the labor hour or machine hour is figured upon a certain volume of production per period which has been established as the normal rate. The normal rate may exceed or be less than the capacity of the plant and it is likely at all times to differ somewhat from the actual rate.

Likewise, the variable manufacturing costs actually incurred will differ from those established at normal rates. Production costs are figured at the normal rate and a special account is maintained to record differences between actual and normal costs. If actual costs equal, or are less than, those derived by applying the normal rate, the entire amount is charged to the working process at these standard rates.

The methods mentioned would be ideal as a means of establishing departmental budgets were the bases more accurate. After all, a budget should establish an estimate of supposedly actual expenses based not upon normal operation but upon the actually anticipated production, which may be quite a different thing. The establishment of budgeted expense on the basis of anticipated production is predicated upon a careful study of actual results of prior periods, subject to necessary modifications due to new

factors and, when once ascertained, the percentage allotments automatically become a quota for those responsible for results.

The cost accountant does not usually distinguish between variable and non-variable elements of expense in calculating his overhead rates. Certain elements of the non-variable expenses are not under the control of departmental foremen, such as salaries of the superintendent and inspectors, but the cost accounting process assesses the ratable portion of these indirect costs to the units of product. Stores expense is another example. The ratable portion of this expense is assessed to the material costs in the cost accounting process whereas, from the budget standpoint, the variable costs at least should be established so that proper records may be kept departmentally and incentives furnished to control this element of expense.

It will often be found, after careful study, that many of the expense factors bear a definite relation to the payroll, or operations or activity of the department. Hence, from the budget standpoint, the desired aim is to ascertain the cost of operation based upon anticipated production. The non-variable items are calculated upon the basis of the known expense for the week, or the month, or other chosen period. The variable items are calculated upon the production schedule.

The foregoing plan necessarily requires that the budget estimates shall be compared each period with

the actual results, and explanations required for any deviation or the budget estimates revised when necessary.

9. *Methods of preparing manufacturing expense estimate.*—There are essentially three reasons for the estimating of manufacturing expense: (a) Necessity for knowledge of unit profits, (b) treasurer requires a cash disbursement estimate, (c) control of manufacturing expense.

In the preparation of the sales budget, it is necessary that the sales manager have some conception of the total cost of all units of product. He should know approximately what proportion of the cost is material, what part labor, and what part manufacturing expense. Since manufacturing expense will differ for varying volumes, and because of the fixed nature of many manufacturing expense items, the sales budget should be made up, keeping in mind the costs at different volumes and with particular regard for the amount of each unit which must be sold before the profit point—the point where all fixed overhead is absorbed—is reached. Knowledge of unit profits is also necessary in making rough estimates of profit and loss by multiplying estimate unit sales by unit profits. Of course, the latter procedure is not entirely necessary, for an estimated statement of income profit and loss can be established by estimating the changes in various accounts and compiling a statement in the accountant's usual manner.

Any good cost accounting system will disclose this

information. The sales manager and major executive do not care to know the cost of manufacturing expense by departments. It is sufficient for these executives to know the cost of products. In fact the major executive, seeking to exercise general control over cost, finds a comparison of actual and budgeted costs established on a product basis sufficient for his purpose. Such information can be obtained and presented in summary form from the cost accounting department in much shorter time and with less work than would be involved in summarizing the results of individual departmental budgets. Should the executive require further detailed explanation of variations between budgeted product costs and actuals, these may be prepared for him by a summary of departmental budget figures covering the variations in question.

The cash or treasurer's budget of working capital needs primarily to concern itself with the cash outlay for two items of manufacturing expense.

10. *Indirect labor and indirect material.*—There are, of course, items such as rent which do not come under either of these two classifications, but they are easily obtainable from the records. While the treasurer does not obtain indirect payroll and indirect material expenditure estimates from the various manufacturing departments but from the purchasing agent in the case of materials and from the payroll department in the case of indirect labor, these items originally come from departmental estimates. For

instance, take the item of maintenance. As each departmental budget is made up, a definite allowance is made for maintenance. The item is usually made on the basis of experience and represents the cost of anticipated material for repairs plus the labor of making them. From the combined maintenance cost estimates of all departments, the maintenance foreman or superintendent is able to prepare a budget for the expenses of this department. This budget furnishes the purchasing agent with the necessary indirect material requirements and gives to the personnel and payroll departments an estimate of indirect labor needs. In the case of such items as foremen's salaries, which from the standpoint of the individual department are uncontrollable, the production superintendent may prepare a fixed expense budget which will form the basis for payroll estimates.

The primary purpose of preparing the departmental manufacturing expense budget is represented in the third reason named, that is control. While higher executives are concerned with summaries, trends, and general movements, the department head or foreman is concerned with measuring individuals in individual items. This is rightly so. Where the major executive is concerned about dollars, the departmental foreman is concerned with cents and fractions of cents.

Analysis should be made of all indirect materials used by each department, and all services performed by other departments, such as the maintenance de-

partment for the producing department. Cost records, the foreman's experience, and a study of all operations performed in the department should form a basis for a fairly accurate estimate of controllable expense for each department. Each department foreman assists in the preparation of the budget of his department, the actual clerical work being performed for him, but the estimates are approved only upon consultation with him.

11. *Making departmental expense budgets responsive to varying volumes.*—It seems useless to make a dollar and cents allowance of controllable expense for each department for the reason that it is seldom that production can be carried on at an exactly predetermined rate. Most of the reports of extreme accuracy of prediction, when analyzed are found to embrace an extended operating period where the law of averages has ironed out weekly variations and the totals correspond to estimates.

Suppose production lacks one-third of reaching the schedule planned and the manufacturing expense for the department has been established at a given number of dollars, computed on the basis of the planned schedule. What basis shall be used for the determination of the budgeted expense allowance for a volume $33\frac{1}{3}$ per cent below the budget? Must an entirely new schedule of manufacturing expense be now computed for the purpose of checking the actuals? Clearly such a procedure would entail so much detailed work as to be impractical. How, then,

is the manufacturing expense budget to be made flexible enough to offer a ready basis for comparison with actuals at any volume?

The problem may be solved by borrowing from the practice of cost accountants in determining percentage rates at which the manufacturing expense could be applied. Having found that various items of expense appear always to have a definite percentage relationship to the payroll, one may take the payroll figures for any volume and compute the expense on that basis. The computations result in dollar and cents figures of controllable expense which are correct for that volume. Comparison with actuals quickly reveals any serious discrepancy which can be corrected, thereby bringing about the desired control. This method is easily applied, meets budgetary requirements, and obtains the results at a low cost.

If the payroll does not seem to give an accurate base, recourse can be had to the labor hour, machine hour, direct material or similar base, choosing in each case the one which is the most accurate. In fact, if some expense items in a department seem to vary with one base and some with another, there is no reason why two or more such bases could not be used. If operating conditions vary, as they may from time to time, the base used may prove inaccurate. Such inaccuracies are quickly disclosed by comparison with actuals and a check-up to determine the cause. Just as soon as the foreman proves he is not at fault, the error must lie in the budget computation and prompt

adjustment can be made. Such errors, however, should be few in actual practice where experience has been the guide in setting rates.

12. *Control of fixed items.*—Reference has already been made to the desirability of having a budget of fixed expense in charge of some officer who can be responsible for it. For instance, it was suggested that the production manager be made responsible for the preparation of a production budget covering such fixed items as salaries of manufacturing department heads, foremen, etc. Unfortunately, the use of the word “fixed” in connection with many such items has been taken as meaning completely uncontrollable and such items have been merely added as a matter of routine.

From the standpoint of the departmental foreman, many items, including his own salary, are uncontrollable and, therefore, are omitted from his budget. They may, however, represent controllable items to someone higher up. Even though these items vary not at all from year to year, they should be made the responsibility of someone who can be constantly alert to affect a saving. Rent, for instance, is usually considered an uncontrollable item, still it should be budgeted and broken down on a floor space basis to show the charge against various departments. The result will be economy in the use of space which might otherwise be wasted. No difficulty is experienced with such items as foremen’s salaries which will vary from time to time as production increases or

decreases and additions or reductions in the number of foremen are made by the superintendent.

13. *Assembling the manufacturing budget.*—The manner of presentation of budget figures as well as the reports on actual performance depends upon the type of executive for which they are prepared. The foremen and other departmental executives are close to the line of action. Budget figures prepared for individual departments show detailed performance and cost expectancies. Each item of cost is listed with a column for the entering of budget figures and one for actual figures. Also, the nearer the line of action the executive is, the more frequently he should receive reports on actual performances. It is the dynamic action of the foremen and department heads, in correcting errors shown by comparison of actuals with the budget, which makes budgetary control of expense effective. The general executives, sometimes termed major executives, in charge of production do not need to have detailed budget figures nor detailed reports of performance, neither is it so necessary that reports be prepared as often as for minor executives. A summary of the combined figures of all departments or a weekly report on each department may be all that is necessary. Such a summary form giving the result of all manufacturing activities is shown in Figure 18. It can be modified, if other details are needed.

Presumably, a report or budget prepared for the use of the president or board of directors would sum-

marize all the details of the entire business. Probably the directors would be satisfied to receive an estimated balance sheet and profit and loss statement. The point is that executives higher up can, at any time, demand the details from their subordinates. If reports to executives contain non-essential details, the value of the reports is decidedly minimized. The points to be kept in mind are whether the report is in such form that the executive can use it, and whether it can be improved to make it more useful. The budget is a tool to be used.

REVIEW

Can variable items of plant expense be budgeted?

How is manufacturing expense handled in the budget?

Name the three principal reasons for preparing the manufacturing expense estimate.

What detail is necessary in the presentation of reports on budget performance?

CHAPTER XIII

OTHER EXPENSE BUDGETS

1. *Classification of expense.*—The reader will have noted that each section of the budget is prepared by some responsible minor executive for coördination with other budgets and final approval by a higher authority. It will aid materially in the work of budgetary control, if a chart of the organization is prepared which will show responsibility for functions and the flow of authority. This leads logically to the preparation of a suitable classification of expenses and income so that the outgo and income may be accurately recorded. Responsibility and authority are coördinate and recognition of this principle is a prerequisite to successful budget procedure. Hence, while the cost accountant will endeavor to allocate both direct and indirect costs to units of product or service, yet it must be realized that from the budget standpoint this procedure should be modified.

The inherent difficulty of allocating the salaries and expenses of the officers of a large corporation will be obvious upon reflection. Undoubtedly, the executives will devote some attention to the problems of distribution and it may happen that this is the problem which demands the major share of executive

effort and attention. From the cost standpoint, therefore, it would be ideal to allocate to this activity an accurate share of the executive expense. But it is manifest that the sales executive upon whom is placed the responsibility for producing the revenue has no authority or control over the salaries and expenses of the general administration.

2. *Nature of other expenses.*—In addition to the expenses referred to above, there are many other items which constitute the group known as general or administration expense. These will include the expenses of the accounting department, the general office staff, the personnel and welfare departments, and the expense of the credit and collection staff. All of these departments render services of a general character for the sales and production departments and usually they exist as separate units of the organization. Of course, the amounts expended must be included in the ultimate cost of the goods or service produced, and they constitute a sum to be deducted from the net profit on trading or manufacturing before arriving at net profit on total operations. In many instances, they will amount to a substantial sum and their tendency is to increase in amount unless submitted to effective control.

3. *Salaries and expenses of officers.*—Since the salaries of officers are fixed by the board of directors, it is advisable that the board shall assume special jurisdiction of these items of expense. The officers constitute the driving force of management, and they

initiate policies subject to the approval of the board and must assume the responsibility for carrying out the approved program. It is becoming more common to reward the management group in part at least on the basis of results attained, and this is the logical thing to do in many cases under modern conditions. Each of these officers in turn may be assigned responsibility for major functions. Thus, a vice-president may be placed in charge of finance, which will include supervision over the work of the treasurer, the cashier, and the credit office. Another vice-president may be in charge of operations, under whose authority will rest the accounting office and personnel functions. Still another vice-president may be assigned the responsibility for sales activities, who will be coördinate with a similar officer in charge of production.

The foregoing outline applies to a manufacturing organization, but the necessary modifications applicable to a mercantile or trading establishment will suggest themselves. Naturally the functionalization and flow of authority will depend upon the particular character of the individual organization and no uniform pattern superior to all others may be suggested. In any event, the necessity becomes evident for budgeting these expenses separately for approval by the board of directors or a committee appointed by it, desirable as it may be from the cost standpoint to allocate them to units of product or service. Allocation results in burying these expenses in the

departmental figures and all semblance of control is lost. There is ever present the temptation to bury an increase in expenses rather than to prevent it.

4. *Office expense budget.*—Although it is more difficult to set up standards in the office than in any part of the business, it does not follow that a budget is impracticable or is not needed; quite the contrary is true. Since the office is merely a facilitating activity and not directly productive, it must be watched more closely than those departments in which productivity and profitability can be measured directly. Office expenses are intangible in character and have a habit of increasing more rapidly than business volume unless strict control is instituted.

When a budget is not used, a drastic office reorganization is necessary at periodic intervals. These reorganizations of the office force, while necessary from the standpoint of the business, are often unfair to the employees, and do much to undermine their morale. It is better to avoid them entirely by a well-planned and closely followed budget.

The office budget is the responsibility of the office manager. Where offices are maintained in different locations, a still higher executive, usually the treasurer, may have charge of the total office expense.

5. *Financial expense budget.*—This budget is a comparatively new one; it did not exist when business was carried on in small units or when the corporation form was used merely as a family affair. Under modern large-scale production, provision must be

made for payment of hire for every dollar borrowed. Public ownership and public lending necessitate this budget.

Still another change made it one of the most important budgets. The substitution of machinery for labor and the use of capital instead of brawn in production have caused this expense to grow in size more rapidly than any other in most companies, since this budget increases in relative importance as the labor budget decreases.

In this budget, bank interest, fixed charges on bonds, and other financing costs are provided for in advance. It would also include a part of the expense of the treasurer's department in some companies; while in others, it would include the entire accounting concept of financial expense.

6. *Insurance budget*.—Protection against unusual risks by insurance is being more widely employed in business each year. The costs of the various kinds of insurance have gone up and the different types of coverage considered necessary have increased in number.

Workmen's compensation, fire, hold-up, fraud, forgery, theft, fidelity, public liability, and automobile insurance of all kinds by no means cover the various types of insurance which an ordinary business may carry. The cost of all this coverage is sufficient justification for a separate budget; but much more than this can be accomplished by one. The insurance budget provides a continuous internal

audit of the insurance carried by the enterprise as the proportions and amounts of the different kinds of insurance carried are shown. Thus, the budget makes it impossible to overlook a needed coverage, and at the same time shows if too much is being spent on any type of risk.

This budget, moreover, permits control of the insurance carried from a seasonal or activity standpoint. For example, additional inventory insurance must be carried during the months of peak activity. A special additional short-term policy for such coverage is more economical than the year round policy for average value which is frequently employed.

7. *Welfare expense budget.*—This budget includes the administrative expense of the personnel department and all other welfare expense, such as medical, recreational, and educational facilities, on the theory that this department protects the interests of the employees. In it provision is made for the pension and retirement funds or group insurance—substantial charges in concerns that have adopted such plans.

Much of this work has received worthy praise because of its humanitarian aspect, but business is not a philanthropic institution. Such expenditures are justified from a business standpoint only when calculation shows a commensurate return to the business. Competition forces the abandonment of welfare work which does not bring a return, and the grim law of economic competition calls a halt on waste here just as in any other part of the business.

However, since nearly every executive is by nature generous with respect to such expenses, it is imperative to control them. This budget brings together the various expenses of this type and enables the management to see in advance the exact cost of the welfare work and to determine whether the expense is justifiable.

The amount set up in this budget is usually based on the average amount spent per employee in the previous years. A much better plan, although rarely used, is a survey of needs and possibilities of return, a specific appropriation being made to cover the recommendations accepted by the management. This last method divorces the budget from the past and makes it look to the future, which is always to be desired.

8. *Taxes budget.*—Business is beset with so many taxes nowadays that it is wise to make provision for them in the budget system by means of a separate listing in the budget. Property, franchise, and certain corporate taxes may be definitely determined in advance, while income and sales taxes may be estimated and provided for. If a tax department or a tax expert is maintained, that expense should be included, too.

9. *Standardized forms should be used.*—Whatever the detail and number of expense budgets desired, the operation of the system is facilitated by the adoption of a standard form for setting up the estimates. This form should be adopted only after careful study, and

[illegible]

FIGURE 20—A REPORT ON EXPENSE BUDGETS

tions. These reports are usually made monthly, a form such as the one illustrated in Figure 20 being used for the purpose.

In some instances, department stores and banks, for example, daily reports are the practice on certain items. Other concerns leave observance of the budget up to the department head, being content with the annual check-up. This method, to be successful, presupposes a very strict rule prohibiting any excess in a budget without executive authorization. Monthly reports, however, have been found most satisfactory for the average business.

REVIEW

What is the "expense problem?"

Why is special treatment given to the salaries of officers?

Discuss the practicability of an office expense budget.

Discuss the growing importance of the financial budget.

Would you advise daily reports on the various expense budgets?

CHAPTER XIV

THE PLANT AND EQUIPMENT BUDGET

1. *Budget of plant and equipment not a departmental budget.*—The budget of plant and equipment expenditures is not a departmental budget in the sense that the operating and administrative budgets are. In some organizations, all maintenance repairs are made and all requests for new machinery are passed upon by a department known as the plant and equipment department. But since expenditures may be made for the account of any department in the whole organization, this department is more likely to be either a division of the production department, in order to secure better control over such manufacturing expense items as repairs and maintenance, or a division of the general manager's office dealing with plans for expansion. The items of current repairs may quite properly be handled as manufacturing expenses and, as such, have been covered in the chapter on manufacturing expense. In this chapter, we shall cover the budgeting of actual additions to existing plant and equipment.

The planning of such expenditures is largely tied up with the general policies of the business and hence is a function of the general management. Knowl-

edge of the capacity of individual departments is in the possession of all who have to do with the determination of major policies and, whenever plans point to the overloading of certain departments, the question immediately arises as to whether such overload is desirable and permanent. If so, immediate steps must be taken to provide additional equipment.

2. *The plant and equipment budget is a capital budget.*—Accountants debit the capital accounts with all expenditures that add new equipment to the plant. Exceptions are made in the cases of small tools and small replacements, which are treated as current expense items and charged off to expense at once. The accounting treatment is mentioned because it emphasizes the nature of the items we have before us for consideration.

Additions to plant and equipment require the outlay of funds that must come out of current earnings, out of accumulated working capital, or from the sale of bonds or stock. The wise policy is to invest a considerable amount of current earnings in addition to plant and equipment. This practice is illustrated in the United States Steel Corporation, under the management of the late Elbert H. Gary who consistently maintained a moderate dividend rate while constantly increasing the assets of the company through the use of earnings for this purpose. Public utilities, on the other hand, are restricted in earnings by the rates set up by governmental bodies and hence regularly finance additions and extensions through

the sale of securities. Regardless of which policy is adopted, plans for such extensions should be made early enough, (a) to insure equipment being ready in time to take care of anticipated increase in business, and (b) to provide capital for the purpose.

In the case of some public utilities and industrial companies, plans for expansion may cover a period of from ten to twenty years. This is largely due to problems in connection with the acquisition of franchises, water rights, and other properties which must be obtained in advance to prevent inadequacy in the future. Construction of some major projects takes several years and obviously must be carefully planned in the light of future needs. Ordinarily, however, actual budgets of plant and equipment needs are not made for a period longer than five years.

3. *Dangers of not planning capital expenditures.*—The success of any business depends upon the goodwill created among its customers. Obviously, a large part of this goodwill is developed through the ability of the concern to serve its customers promptly. It is too late, usually, to add additional equipment when the orders are at hand. Modern industrial processes are complicated and require time for completion. By the time equipment is ready, not only has good business been lost but customer goodwill as well.

Then, too, there is the danger of overexpansion to meet a temporary bulge in orders. Many businesses have seriously handicapped themselves in recent

years through this error. Where an expansion estimate has been prepared in line with anticipated increases in sales, any unusual sales demand which is out of line with predictions causes a most searching investigation. Often such an increase is caused merely by the absence from the field of some leading competitor who is having difficulties with design or labor trouble or by some sudden whim of the buying public which cannot be expected to continue. More than once, a two- or three-year building program has been started in answer to such a temporary demand, only to result in idle capacity upon completion.

There is a constant temptation, where last-minute expansion is undertaken, to finance it out of accumulated working capital, especially where such expansion does not appear too costly. On the other hand, a larger business requires more working capital, a point often overlooked, and a business which robs its working capital to expand soon finds itself forced to raise capital for this purpose. But such capital is often harder to obtain because of an impaired working capital position and will be more costly than if it had been acquired earlier. The benefits derived from planning expansion so as to take advantage of periods of the business cycle favorable to such operations have already been pointed out in a previous chapter.

4. *Long-term forecasts the basis for plant and equipment budget.*—In the construction of plant and equipment forecasts, the long-term forecasts and

cyclical forecasts discussed in the chapter on forecasting find their most practical utilization. Any forecast of plant expansion naturally begins with a long-term demand or sales forecast. Light and power companies analyze their territories with the utmost care. Present conditions as to population, character of population, number and character of dwellings, and industrialization are carefully surveyed and charts are drawn of expected development in the course of a few years. From this information, the long-term demand or sales forecast is worked out. At the same time a chart is drawn of the line of growth as evidenced by past trends and this line is projected into the future, modified by any extraordinary tendencies disclosed by the territorial survey.

In general practice, it is found convenient to estimate plant and equipment expenditures in terms of some convenient unit. Where only one service is rendered, such as a telephone service, the future needs may be expressed in the number of "stations," i.e., individual telephones. Mathematical computations by engineers show the amount and various types of equipment required to serve a given number of telephones and, upon this basis, estimates of new equipment requirements are built up. They are converted into dollars on the basis of average costs and furnish the details for a capital requirement forecast for five or more years in the future. Each year, as a new year is added to the forecast, previous year's estimates are revised in terms of any new developments.

5. *An expansion forecast for an industrial business.*—We are indebted to David F. Jordan in his book, "Practical Business Forecasting," for a splendid description of a method of preparing a factory expansion forecast. This method is shown in Table 1 on page 217.

It will be observed that before such a table can be worked out a sales forecast must be prepared. Then a careful survey is made of each department to obtain the capacity of each in terms of sale prices. The capacity used is the normal capacity, for it is practically impossible to maintain an average of 100 per cent utilization of departmental facilities. Normal capacity is quite likely to be about 80 per cent of the maximum. Since the various departments may carry on entirely dissimilar operations and may contribute to the manufacture of many different products, some unit must be devised to form a basis for figuring the cost of future additions. In the illustration given, the total investment for each department is computed and divided by the number of square feet in that department, giving the investment per square foot. The output capacity in dollars is then divided by the number of square feet to give the sales capacity per square foot.

An analysis of the five departments—A, B, C, D and E—shown in the table will help to make clear the utility of such a procedure.

In 1927 the capacity of Department A is shown as \$280,000. According to the sales forecast, this

TABLE I
FACTORY EXPANSION BUDGET (1927-1931)
Annual Capacity

Dept.	Floor Space (sq. ft.)	Capital Investment		At Sales Prices		Sales Budgets				
		\$	(per sq. ft.)	\$	(per sq. ft.)	1927	1928	1929	1930	1931
A....	20,000	100,000	\$ 5.00	280,000	\$14.00	\$200,000	\$220,000	\$242,000	\$ 266,000	\$ 294,000
B.....	10,000	80,000	8.00	120,000	12.00	120,000	126,000	132,000	139,000	146,000
C.....	30,000	600,000	20.00	300,000	10.00	1400,000	250,000	275,000	350,000	400,000
D.....	20,000	200,000	10.00	300,000	15.00	200,000	200,000	220,000	240,000	260,000
E.....	5,000	60,000	12.00	70,000	14.00	50,000	60,000	70,000	80,000	90,000
Total	85,000	\$1,040,000	\$12.25	\$1,070,000	\$12.80	\$970,000	\$856,000	\$939,000	\$1,075,000	\$1,190,000

[In excess of present capacity.]

1927... No expansion. Dept. C deficit due to abnormal bulge in orders.

1928... Expand Dept. B to \$150,000 capacity (\$150,000—\$120,000 = \$ 30,000 ÷ \$12 = 2,500 sq. ft. × \$ 8 = \$20,000 req.).

1929... No expansion.

1930... Expand Dept. C to \$400,000 capacity (\$400,000—\$300,000 = \$100,000 ÷ \$10 = 10,000 sq. ft. × \$20 = \$200,000 req.).

Expand Dept. E to \$100,000 capacity (\$100,000—\$ 70,000 = \$ 30,000 ÷ \$14 = 2,150 sq. ft. × \$12 = \$25,800 req.).

1931... Expand Dept. A to \$320,000 capacity (\$320,000—\$280,000 = \$ 40,000 ÷ \$14 = 2,850 sq. ft. × \$ 5 = \$14,250 req.).

capacity must be increased to at least \$294,000 to take care of business in 1931. It would be too late to consider such expansion in that year so that when the 1929 budget is under consideration the matter of building for 1931 will come up for decision in the light of revised figures to be worked out at the close of 1928.

Department B shows that need for immediate action for capacity is exceeded by the estimate for 1928. It would probably be deemed impractical to expand to a size merely adequate to take care of the needs of 1928, for an inspection of the sales forecast shows increased sales for every year up to 1931. In determining just how large an expansion should take place, the cost of the investment will be considered, for it would be wasteful to tie up too much capital in excess capacity. Since the cost is low, \$8 per square foot, and probably there is economy to be achieved in building a sizable addition instead of a small one, plans might be considered for increasing capacity to \$150,000. This means that an expenditure of \$20,000 must go into the capital expenditure budget for 1927. This is arrived at by dividing the \$30,000 expansion by \$12, the sales capacity per square foot, which equals 2,500 square feet. Multiplying 2,500 by \$8, the cost per square foot, we obtain the cost, \$20,000.

In Department C, the 1927 budget shows what at first sight seems an alarming situation. Capacity is exceeded by \$100,000. Obviously, it is too late to

build to take care of the 1927 business so the sales forecast for succeeding years is inspected. Strangely enough these years with the exception of the last two show that present capacity is in excess of sales. Clearly here is a case of a temporary bulge in orders, caused by some whim of the buying public, cyclical movement, or other temporary situation. If expansion were begun now, there would be heavy overcapacity in 1928 and 1929. The best business policy would seem to be to try in every possible way to handle the 1927 business with present facilities. If capacity has been figured on an 80 per cent basis, every effort should be made to obtain the full 100 per cent maximum and as many customers as possible should be persuaded to accept early 1928 delivery. Meanwhile, since capacity is exceeded by the forecast for 1930, the 1928 budget must contain an item of \$200,000 needed to construct new additions to this department to bring capacity to \$400,000.

The remaining departments are analyzed in the same way and the results included in the capital requirement forecast.

6. *The place of major construction projects in the annual budget.*—Each year the various projects in the long-term budget which are indicated to begin in that year come up for consideration, for they must be definitely approved before expenditure is authorized. If there is a plant department or new construction department, there is considerable work to be done; if there is no such department, the general

manager must take steps to procure such assistance from technical experts, architects, engineers, etc., as will enable the actual working out of detailed plans.

The budget which may have originally shown the need for expansion five years ahead has gone through four successive revisions. In each, estimated costs become more accurate for the years nearer at hand because revisions are always in line with the latest cost information. Additional forecasts for succeeding years have, perhaps, shown such an increase in business as to warrant greater expansion than was deemed necessary at the time the forecast was originally prepared. Once more the figures in the long-term forecast are scrutinized and it is finally decided whether or not there is still the need for expansion and, if so, it is tentatively approved.

Before final approval, a further study must be made:

- (a) To determine whether the new expansion will pay a fair return on the new capital required for the purpose
- (b) To determine whether it is possible to finance it

There is undoubtedly a law of diminishing returns which relates to expansion of business. Most businesses have competitors and, while the long-term forecast is predicated upon the principle that the business will retain the same or a fair share of the country's total, still reduced sales prices, due to new

competition, may mean a reduction in profit. The new construction must pay for itself. It has been roughly estimated that additions should earn approximately 20 per cent to justify themselves. This estimate of the financial burden is made up as follows:

Dividend and interest requirements.....	9-10%
Depreciation	4-5 %
Taxes, insurance, repairs, etc.....	5-6 %
Total	18-21%

It will be seen that some careful figuring must be done to determine whether or not the concern should build to go after the new business or to refuse to expand further in this direction. It may be that greater profit lies in the expansion of a different department.

The financial consideration is a serious one. Under some plans of financing, expansion takes place out of accumulated profits. In other cases new stock or bonds must be sold. If the company is rigidly to adhere to the former plan, the condition of the surplus and cash accounts may dictate whether the proposed expenditure may be undertaken as planned. Presumably, since the building has been contemplated for several years, an attempt will have been made to build up a fund for the purpose. Indeed, if the recommendation made earlier in this volume be followed, i.e., that building be started in years of

business depression, the existence of a cash reserve for expansion is a necessity. The sale of stocks and bonds may then be difficult at a price favorable to the company.

Financing through the issuance of stocks and bonds always depends on outside conditions. There are years when bonds are readily marketable and years when only stock finds a ready market. The forecasting of trends in the security market is a feat not ordinarily within the power of the average industrial executive, hence it may be that, despite the urgent need of the expansion, outside conditions will prohibit the undertaking. A poor security market means high cost for capital. If the costs add a dangerously high charge against the earnings of the company, prudence dictates that new construction be postponed. A consulting industrial engineer may be able to increase output by improved methods.

If definite approval has finally been given to the project, it now remains to place the authorized expenditure. Before so doing, engineers of the company must make detailed plans and obtain accurate cost figures. If the company does its own construction, the estimates are prepared by the staff of the plant construction department. If outside contractors do the work, bids are requested. These are checked by the company's own staff and the figure which is finally approved by the management becomes the amount to be entered in the budget of expenditures.

7. *Major projects require separate construction budgets.*—While the total expenditure for new construction becomes a part of the treasurer's budget, it is customary to prepare a separate budget for the actual construction work. This budget may be detailed or extremely simple, depending upon whether the company does its own construction or contracts for it. To dispose of the simple budget, it is sufficient to note that it consists merely of a schedule of payments which are to be made as certain stages of the work are completed by the contractor. The company is not concerned with the planning of details, since that work constitutes a part of the job of the contractor.

Where, however, a company has its own plant and equipment department, a detailed budget is prepared by this department. Beginning with the appropriation for the necessary work, each construction project is planned. Materials are ordered to be on hand approximately as needed and labor is engaged. The purchasing department of the company will be furnished detailed specifications of materials and the personnel department a schedule of labor requirements. The cost of each job having been carefully computed, the treasurer is given a schedule showing the time when funds are needed and the amount required. Despite the fact that the material and labor requirements find a place on the purchasing and payrolls budgets, respectively, it is customary to prepare a complete construction budget showing all those de-

tails. This is necessary if the same control is to be exercised over construction as over the other activities of the business.

In a way, the erecting of a building or the adding of new machinery with foundations and shafting is similar to the scheduling of an order of goods through the factory. Every step of the construction is taken according to an engineer's specifications and a definite time is set for the completion of each step. The estimates of material and labor costs represent the budget expenditures. As work progresses, the actual costs are checked against the estimates and thus a close control is exercised.

Electric light and power and telephone companies are constantly expanding their plants to take care of the increased demand for service. It is doubtful if the general public is aware of the amount of new construction being carried on by these companies in meeting the needs of their increasing customers. The Southern California Edison Company in 1924 found its rate of growth approximately 11 per cent a year. On the basis of this estimate, it made plans to increase its output from 1,600,000,000 kilowatt hours in that year to 2,430,000,000 in 1928. A growth of 10 per cent compounded is not unusual in the case of electric light and power companies. In the case of utilities, the new demand once attained is usually retained and there is seldom such a falling off in the demand which so embarrasses industrial organizations. The violent fluctuations in industrial sales

often play havoc with plant capacity. A case in point is that of the American Locomotive Company whose sales were in one year \$90,000,000 and in the next, a year of extreme depression, only \$30,000,000.

It should be apparent that in public utilities at least, the new construction department is just as important as any department in the business. Operating departments are concerned with present service, while the new construction department is concerned with future service. The construction budget, therefore, is one of the most important factors in the business. Upon its budget of construction needs the public utility company lays plans for raising funds, and upon the efficiency with which its works are planned and carried out depend not only the adequacy of dividends on the capital but the future service to customers.

8. *Plant improvement and replacements.*—In any existing plant, equipment is constantly being worn out through ordinary wear and tear or is becoming obsolete through changes in styles of product or because of new inventions which under competitive conditions must be kept pace with. The writer recalls the case of a certain steel company in Ohio which spent \$100,000 in the developing and building of a machine for a fabricating process, only to discard it within a year because a competitor brought out a machine which would do the work much more rapidly. To meet the competition, an entirely new machine had to be built and installed. Such a situation

is unusual because the single item of expense was large, but in some cases the rapid obsolescence of machinery and equipment is a serious factor.

The accountant provides for depreciation, whether from deterioration or obsolescence, by providing that each year a certain percentage of the cost of the asset be charged to operating expense. This places the cost of depreciation upon the product, where it belongs, but it has nothing to do with a provision for buying a new asset. This point is not overlooked by the accountant, who, when he enters depreciation as a charge upon earnings, credits an account called "Reserve for Depreciation" with a similar amount. By so doing, a proportion of the earnings is withheld from the stockholders and is available for replacement purposes. There are two ways of handling this reserve. It may be funded, that is, a certain sum may be set aside, which with accumulated interest will equal the value of the asset at the end of its estimated life. Business men usually object to this for, if the fund is invested, it will ordinarily earn less than it would if reinvested in the business while, if it is invested in securities, there is risk of loss. The more usual method is to allow the reserve to be invested in the business. The object in briefly mentioning these accounting details is to do away with the impression that depreciation reserves obviate the necessity of financing replacements, or of including them in budgets.

If there is a cash fund available through the fund-

ing of the reserve for depreciation, it is just as important that proper plans be laid for the expenditure as if the fund is simply surplus working capital which the treasurer might expend for the purpose. If there is no special fund set aside for replacements, the expenditures for replacements must come from current earnings, accumulated cash, or sales of securities. If the replacements do not aggregate large sums, they are usually financed out of current earnings.

In preparing the plant and equipment budget, provision is made for "new construction" and "replacements." When the budget is prepared, each department head should submit a statement to the plant and equipment department or to the general manager showing just what equipment is needed. This information is summarized in a form similar to the one illustrated in Figure 21. One company follows the practice of having department heads classify equipment requested under headings—"desirable" and "necessary." Desirable equipment is that which would better operating conditions in some way, if the company could afford to purchase it. Necessary equipment is that which must be had if the department is to perform the work assigned to it. In the case of "desirable" equipment, it must be clearly shown that this equipment will pay for itself in a reasonable time and that it actually possesses the advantages suggested.

9. *Emergency replacements.*—Occasionally, an accident or other emergency requires the immediate re-

SUMMARIZED PLANT AND EQUIPMENT BUDGET									
From _____ 19__ To _____ 19__									
	Anticipated Expenditure						Actual Expenditure		
	Original Estimate by _____		Revision by _____		Finally Adopted				
Replacements Press Dept. Planning Dept. Machine Shop etc.									
Total Replacements									
Additions Plant A Plant B etc.									
Total Additions									

FIGURE 21—A SUMMARIZED PLANT AND EQUIPMENT BUDGET

tirement of old equipment and the replacement with new. At other times it is found that customers desire some new style or service which requires new machinery to be installed immediately for the purpose. A competitor may come out with some new device or product which meets with such immediate popularity that steps must be taken at once to meet the competition, if the sales estimates are to be achieved. It is not contemplated that provision for

such emergencies be made in the budget, but the prudently managed concerns should have reserve funds or sources available for the purpose. Each case is to be considered upon its merits by the budget officer or his committee, and, if the additional appropriation seems necessary, it is authorized and added to the budget of the department.

10. *Responsibility of department heads for plant and equipment budget.*—While data on all necessary equipment to be purchased is assembled in the plant and equipment budget, at least the minor purchases, such as replacements and minor additions to existing equipment, usually appear on the budget of the individual department when the budget is finally divided among those who are responsible for enforcement. Each department head is responsible for keeping replacement needs within the amounts authorized. This causes each department head to see that present equipment is not abused, that it is kept in repair, and that each machine is kept at its maximum efficiency.

11. *Reserve funds for plant expansion.*—It is the practice of some corporations to maintain a cash reserve fund, out of which capital expenditures can be made. The practice is not at all common as stated above, because of the low rate of return. But if expansion is to take place at periods when costs are low, that is, in times of business depression, such a reserve fund may seem necessary. When building costs are at a minimum, the earnings of the company are also usually at a minimum, and, hence, the financial pro-

gram must often contemplate the employment of accumulated funds rather than new financing.

Expansion of the purely financial type, that is, through purchase of existing plants for cash, is facilitated by such a reserve. A company possessing such a reserve has funds with which to buy other plants at times when such purchases can be made at bargain prices. Not only are cash purchases facilitated, but mergers, in which the stock of the purchasing corporation is exchanged for the stock of the selling corporation, are materially aided. The reason is that the corporation possessing the reserve fund is in an excellent cash position and its securities are not as likely to suffer as great a decline as other corporations, and the higher exchange value of its securities can be used to advantage in acquiring stock in less fortunate corporations.

12. *Importance of planning capital requirements.*—During the year 1929, the Bell System operated by the American Telephone and Telegraph Company expended \$585,000,000 on the construction of new telephone plants and a total of \$45,000,000 on the construction of new manufacturing facilities. In the annual report for that year, the president, Walter S. Gifford, stated that approximately \$700,000,000 would be spent for betterments and additions to plant and equipment in 1930. Obviously, such expenditure could not be undertaken, except in furtherance of a detailed plan. This company plans its expenditure many years ahead. Not only are the ex-

penditures planned, but income estimates are made at the same time, for the company must plan to pay its stockholders an adequate return on the capital they have invested. Unwise expenditures in non-productive assets would soon stop the inflow of cash from the investing public.

The present state of overcapacity in many industries is mute evidence of the lack of planning plant and equipment expenditures. Thousands of investors who have contributed many millions of dollars to industries in the United States and Canada are not receiving a fair return on their investment because of unwise expenditures.

REVIEW

Where should the responsibility be placed for the budget of plant and equipment?

Why is it dangerous to neglect to plan capital expenditures?

Discuss the relation of forecasting to the plant and equipment budget.

Under what circumstances would you recommend the use of construction budgets?

How are emergency replacements covered in the budget?

CHAPTER XV

FINANCIAL ASPECT OF BUDGETING

1. *The significant character of modern production.*
—The several sharply defined periods in economic history are often designated by the character of the business and commercial operations of the time. Originally, man lived in a barter economy from which he passed to a money economy. Eventually, he reached the stage generally referred to as credit economy. Perhaps the present era is aptly described as the period of financial economy. The change from handicraft to machines was not only contemporaneous with the greater use of credit, but it also brought into being new problems which do not relate to credit.

The increased use of machinery has tremendously increased the capital investment per worker and the growth in the amount of fixed capital required is greater in the United States than anywhere in the world. It is true that we have increased the productivity of labor, but this has usually been secured at the cost of a great increase in the capital investment. Therefore, while we must continue to measure the margin of profit as a percentage on sales, we must also pay attention to the percentage of profit on in-

vested capital. The sum total of assets, including current and fixed assets, constitutes the capital fund employed in operations. The working capital is that portion of the total fund which is constantly reinvested or turned over. It necessarily follows that the rapidity of the turnover has a relation to the percentage of profit or the level of profit as well as to the amount invested or turned over.

To illustrate the point just made, let us assume that a manufacturer has a total capital fund of \$100,000 of which \$50,000 is invested in fixed assets and \$50,000 is invested in working assets. If the total sales amount to \$100,000 and the profit is \$20,000, it is obvious that the profit on sales is 20 per cent while the profit on total investment is 10 per cent. If sales can be increased to \$120,000 on the same capital investment with the same rate of profit, the profit of the total investment has been 12 per cent, due to a more rapid turnover in working capital, assuming, of course, constant sales prices and production costs. But capital investment is frequently increased by what we will call, for want of a better name, "cost of progress."

We are no longer content to ride in antiquated railway coaches, which are poorly lighted and ventilated. Our railroads are erecting veritable temples of transportation for the convenience of passengers. In many cases, these improvements will produce no significant amount of increased revenue, and they may actually increase operating costs. This has a

tendency to increase the cost of capital investment per dollar of income. In many other forms of business and commercial activity, the same conditions prevail. Competition also has a tendency to narrow the profit margin per dollar of invested capital.

Moreover, when the management is faced with the problem of expansion, consideration must be given to the effect on profit margins due to the increase in fixed and working capital. For it is evident, to continue our example, that if the total invested capital is to be increased to \$150,000 by adding \$50,000—half in fixed and half in working capital—the sales at the same profit rates must be increased to \$150,000 if 10 per cent is to be earned on capital invested.

Expansion may involve diversification of product, or it may involve the acquisition of facilities for the purpose of manufacturing parts formerly purchased from others. The decision on these points must be based on a careful preliminary study. Diversification of product may not produce the results anticipated, and experience has taught many that vertical expansion results in less efficiency or no savings even if it does not produce losses. It should not be overlooked that any business must carry a minimum of inventory, if it is to do business.

2. *Financial planning*.—Financial planning is necessitated not only because more capital is needed to conduct business, but because of the varying conditions under which capital is secured, and the variety

of sources utilized. Business raises capital in every conceivable manner from every conceivable source, depending upon the strategic position of the various classes of lenders. Business shifts from one financial device to another as occasion demands. If bonds are popular, it will take advantage of this preference to borrow in this manner; if stock is popular, then capital will be secured through the issue of stock. If bankers' acceptances are in demand, short-term financing may be arranged rather than borrowing directly from the banker by means of an over-the-counter loan. Or some of the still more modern methods, such as the use of finance companies, as in the automobile business, may be found advisable.

New ways of borrowing arise; new institutions come into the field. Business uses each to the extent dictated by circumstances, the attempt being made to secure capital or funds from the source or sources which offer the lowest rate consistent with safety to the borrower.

The relationship between these methods and the rates charged will vary with changes in the business cycle and with changes in the lender's taste. For example, the price of common stock can be correlated fairly closely with the business cycle, and the changes in public preference from mortgages to securities or from stock to bonds are well known. The commercial bank, too, at certain periods is far more liberal than at others. A volume of bank loans which would be safe from the standpoint of the business in one

year might be dangerous in another. Hence, financial planning is not only a question of getting the capital cheaply but at the same time maintaining a balanced financial structure.

3. *Dollars are the common denominator in business.*—The financial element is all-pervasive—it is present in every budget, in every forecast, in every operation of the business, in every entry in the books. It would seem unnecessary to call attention to anything so obvious, but since this truism, which might be called one of the basic principles or rules of business, is “more honored in the breach than the observance,” its importance must again be emphasized.

This financial emphasis, which is so characteristic of our social life, our national policies and major operations in business, is often overlooked or not given sufficient weight in the consideration of minor operations. Frederick W. Taylor taught the production men that, every time a man moved his hand, dollars were involved; his time and motion studies showed the value of every movement. A similar appreciation of the financial aspect of every operation, of every entry in the books of account, of every item in the budget, will aid greatly in understanding the underlying philosophy in budgetary control.

4. *Economical vs. uneconomical use of capital.*—By this time, it should be clear that the goal of financial planning is more the economical use of capital than the securing of that capital. This is much more than a question of preventing waste; the aim is

to make every dollar of investment work at the highest possible rate. It recognizes the necessity of a minimum return on investment, if the enterprise is to continue functioning. This minimum return, of course, includes the rate of interest that might be obtained by investing in gilt-edged securities plus an additional amount to compensate for the risks and hazards of the business. A fair return on the invested capital would include an addition to this minimum rate which would allow average growth and expansion for the enterprise.

What are some of these uneconomical uses of capital which must be avoided if the ideal of a fair return is to be realized? Overexpansion, which may be defined as the expansion of plant and other fixed facilities to accommodate temporary business, heads the list. Too much credit, long-term dating, and the exercise of other banking functions by business, would also come high in any such list. Some lines of industry recognize this and charge for the banking service they render, either directly or through subsidiary financing companies.

Slow movement in the manufacturing or distributing process also is uneconomical. To quote from the Department of Manufacture of the Chamber of Commerce of the United States in this respect, "Every dollar of capital tied up an unnecessary day in the process of manufacture is unprofitably employed. Ill-balanced production, jammed departments, shortages of desired parts or material, poorly

conceived scheduling of jobs, or no scheduling at all, take on a significance not commonly appreciated, and, in the avoidance of such, often lies the secret of getting along with the capital resources one possesses. Many a manufacturer has sought additional capital when what he really needed most was a better system of production control," or, it may be added, a system of distribution control. Many other examples of the uneconomical use of capital which would apply to all lines of business could be given, but such detail is unnecessary, as any executive can discover many such instances in his own business, if he will but stop a few minutes and reflect.

5. *The financial executive.*—Financial authority in the average company is vested in the treasurer who is charged with responsibility for the preparation of the financial estimates and plans. In the larger companies, a vice-president in charge of finance is placed over the treasurer, and he assumes this responsibility. If the company has a comptroller, he may take over a part of this work. In the very large companies, a special committee of the board of directors, the finance committee, takes charge of all financial matters; but no matter where the planning is done, the board of directors is tremendously interested in this phase of budgetary control.

6. *The cash estimate or budget.*—Ben Franklin once said that a man has only three real friends—an old wife, an old dog, and ready money. Business must have at least one friend—cash. The cash budget

is the heart of a business just as it is the heart of the budgetary system. But a cash budget is of little use unless it is predicated upon properly prepared departmental budgets.

The preparation of the cash budget starts with the cash on hand followed by a list of the amounts of the cash receipts during the period—their source and the time they will be actually received. This involves estimating the cash to be realized from accounts and notes receivable month by month. The expected sales taken from the sales estimate, discussed in another chapter, gives the total of the invoices which will be sent out for the month. While but little cash may be received as a result of the current month's invoices, past experience will show the relationship of the collections of a month to its sales. As this relationship may differ for each month due to seasonal dating and other factors, it is necessary to set up an index or percentage relationship between the sales and cash received from collections for each month of the year. The expected sales for each month are multiplied by the respective percentages to derive anticipated receipts.

Many concerns have been able to refine their method of estimating collections still further by calculating their average collection period and applying this lag directly to sales, while others have worked out methods peculiar to, or necessitated by, their own type of business.

Other income of a cash nature, such as the returns

from investments, the earnings of subsidiaries, and so forth, must be independently estimated on the basis of contracts, plans, and experience.

Cash disbursements, likewise, bear a relationship to the other budgets, particularly the labor budget and purchases budget. In bringing items from these two budgets into the cash disbursements total, care must be exercised to bring only items actually payable during the month, i. e., the purchase total for June will show up in the cash disbursements totals for succeeding months depending on the dating or trade terms secured by the purchasing department. Likewise, there is lag between the incurring of the liability in the labor budget and the actual payroll payment in cash. While this lag is slight, it should be taken into consideration, particularly where the amount of the payroll is important. This side of the cash budget starts off with amounts paid to trade creditors. Then follow in order the sums to be paid out for selling, manufacturing, and administration expenses and other items of expense.

The result is the "Increase or Decrease from Operations" as shown in the "Cash Budget—Operations," illustrated in Figure 22.

This increase or decrease from operations is brought directly into the financial budget as shown in Figure 23.

It is in the financial budget that the capital expenditures, financial fixed charges, capital and bank financing are all brought together. Thus, if the ag-

Year _____ CASH BUDGET--OPERATIONS					
	January	February		March	
		Month	Cumulative	Month	Cumulative
<u>Receipts:</u>					
Sales, Cash and C. O. D.					
Notes Receivable					
Other Income					
Total					
<u>Disbursements:</u>					
Purchases					
Administration Expense					
Selling Expense					
Manufacturing Expense					
Other Expense					
Total					
Increase or Decrease from Operations					

FIGURE 22—THE CASH BUDGET

gregate of the cash balance on January 1 and the cash receipts of the month is less than the payments to be made, the excess must come from temporary financing through bank loans or permanent financing through the issue of securities. Manifestly, if capital assets in substantial amount are to be paid for, the funds must be available in the balance on hand at beginning, or arrangements must be made to take care of the payment. While excess of current cash payments over cash balance and receipts will ordinarily come from bank loans, it will be necessary to

Year _____ FINANCIAL BUDGET					
	January	February		March	
		Month	Cumulative	Month	Cumulative
Cash Balance 1st of Month					
Increase or Decrease from Operations					
Total					
Less:					
Capital Expenditures					
Bank Loans - Paid					
Sinking Fund Charges					
Interest					
Dividends					
Total Deductions					
Cash Balance or Deficit					
Add:					
Bank Loans					
Capital Financing					
Total - Cash Balance at End of Month					

FIGURE 23—THE FINANCIAL BUDGET

arrange permanent financing if these amounts are large or for fixed assets.

There should be a periodic or seasonal liquidation of the bank loan item. While getting out of debt to the commercial banker, for a period of thirty or sixty days during the slack period of the industry, is a general requirement, many business men, and bankers, too, have mistakenly considered this to mean the repayment of all loans. This is too literal an interpretation of the requirement. What the banker really wants is a bank balance comfortably in excess

of the borrowings for the slack period. A business will often be in a position to pay off loans in full but does not, thus saving the executive and clerical work of arranging new loans and at the same time permitting the banker to make some money on the account. To some, the payment of interest on a loan, which could be retired, may seem like waste, but this view is incorrect. The banker considers the average balance and general profitability of an account when lending or making any financial arrangements. Consequently, a large balance, even if partly borrowed, is money well spent, as the goodwill and interest of the banker are invaluable.

The periodic liquidation of all current obligations, as described above, is an absolute necessity in seasonal lines where production reaches a peak to be followed by a period of relative inactivity, during which the cash is received in payment for the shipments of the active period. This measure is not a disciplinary one to keep the business man under the banker's thumb, as some think, but is on the contrary very sound practice because it is a great aid in preventing working capital from being converted into fixed capital. Such periodic tests of liquidity are very necessary, if there is a strong tendency for working capital to be invested in machinery or fixed capital, particularly in the prosperity phase of the business cycle.

Then, too, in the downward swing of the cycle, working capital itself tends to become frozen or

“fixed” in accounts receivable and inventory. Such tendencies are revealed by the requirement of liquidation which contributes to the safety of the business just as much as it protects the banker. Every prudent business executive will arrange to have reserve credit in the form of a larger line of credit that he expects to be required to employ. This will be a desirable precaution in order to avoid the embarrassment due to sudden and unlooked for temporary increases in disbursements or temporary slack in collections.

7. *Special character of capital budgeting.*—No discussion of the financial aspects of budgeting would be complete without some reference to capital budgeting. Various angles of capital budgeting have already been given in the chapters on forecasting and the plant and equipment budget. Therefore, it will be sufficient to point out the relation of such budgeting to the financial forecast and financial policy.

As mentioned in a preceding section, anticipated capital expenditures for the coming year are brought into the financial budget on a summary basis. The amount of such capital expenditures is fixed, because disbursements for capital purposes in excess of the budget should be very much discouraged if not entirely prohibited. There are too many elements of danger connected with the capital investment to permit departures from the program planned.

The long-term aspect of capital budgeting and its

relation to financial policy, however, require special consideration. Such a budget is necessarily for a long term.

A business may largely finance itself by reinvesting in the property a definite percentage of the income of each year. It will then be less necessary to utilize outside capital, although, if the amount required is relatively large, permanent financing will be necessary. A financial policy of slow growth based largely on reinvested earnings is the safest policy of all.

8. *Need of a financial policy.*—Any financial policy must be critical to the extent that a distinction is made between financial *wants* and financial *requirements*. The following excerpt from “Financial Control Policies of General Motors Corporation,” by Albert Bradley, Assistant Treasurer, shows the need of an internal financial policy and the basis of the policy of his company.

Whether a business be large or small, there is need of a policy in regard to the relation of capital investment to price of product, and the condition under which additional capital is to be used to expand the business either through retention of earnings instead of paying dividends, or from sale of capital securities. The governing considerations are rate of return on investment and the relationship of capacity to average and peak demands. In a small business where ownership and management are identical, the fundamental policy may never be formally expressed, but it will nevertheless be taken into account by the owner-manager in making up his mind whether or not to make any additions to his plant. In the typical large industry, however,

where capital is supplied by a large number of stockholders, many of whom are not active in the management, and particularly where the operations are diversified and scattered, it is essential that machinery be established by which the fundamental considerations of pricing of product and expansion programs can be related to the established policies.

Return on investment is the basis of the policy in regard to the pricing of product, but it must be understood that the fundamental consideration is the average return over a protracted period of time, not the specific rate of return over any particular year or short period of time. This long-time rate of return on investment represents the official viewpoint as to the highest average rate of return which can be expected consistent with a healthy growth of the business, and may be referred to as the *economic return attainable*.

In spite of all the reasons adduced in this chapter, there is too often a reluctance on the part of business men to establish financial standards or policies. The feeling is widespread that, if only sales can be made, all other things will be added to the business. Yet, it is well known that there are limits to the strain, which the financial side of a business will sustain, just as there are limits to machine capacity.

The primary responsibility of the financial portion of the budget is to show automatically when the strain is to be expected, and whether it can be met with the available resources; if not, then new capital must be secured by borrowing or sale of ownership, and the business has the advantage of having been warned in advance. The financial budget based as it is upon the others must be adjusted as they are adjusted. After this budget is prepared, the way is

clear to prepare an estimated balance sheet and profit and loss statement for the budget period.

REVIEW

Explain the statement, "the capital requirements per unit of volume are increasing daily."

Why is financial planning imperative?

Name some uneconomical uses of capital in business today.

Distinguish between the "cash budget" and the "financial budget."

Discuss capital budgeting.

What is the essence of any financial policy?

CHAPTER XVI

ESTIMATED PROFIT AND LOSS STATEMENT

1. *Types of financial statements.*—The two standard forms of financial statements with which business executives are familiar are the “Balance Sheet” and the “Statement of Income and Profit and Loss.” The former is a statement of financial condition at a given date showing the assets, liabilities, and capital of the business organization at any given time. It was the first and at one stage in economic history the only financial statement of a business venture. The progress made by the undertaking during any business period is reflected by a comparison of balance sheets made, respectively, at the beginning and the end of the period. The increase or decrease of net worth or investment is reflected in the combined effect of the increases and decreases in assets and liabilities.

As business transactions increased in volume and complexity, the need arose for a more complete system of account keeping and, as a result, the double entry system of bookkeeping was evolved. This system provides a scheme of temporary accounts which reflect those business forces or factors which tend to increase or decrease net worth. In principle they are

subdivisions of the net worth or proprietary account. At any desired date, they may be summarized in an account known as the profit and loss account. The net result of the forces or elements is then applied to the net worth or proprietary account. Obviously, they must furnish the same resultant as a comparison of balance sheets.

Further improvement in the art of account keeping was made as time went on. For example, the plan applied in the factory, known to economists as the subdivision of labor, was carried over into the counting room. This permitted the organization of an accounting system adaptable to any volume of business and paved the way for further devices for administration and control. It may be said with truth, that modern large-scale organization would not have been possible if the accountant had not devised the necessary machinery for accounting control.

It is not so many years ago, when all that the average business executive required was an annual balance sheet and income statement. But competition and narrowing profit margins demanded more frequent appraisals of progress with the result that the yearly statements were replaced by half-yearly and quarterly statements, to be replaced in turn by monthly and even weekly or daily reports of similar character. As business efficiency increased, the same compelling forces brought about the need for the budget. It was no longer wise to rest content to know where one had arrived and how he had got

there. It was essential to know where he was going and how he was to get there. The last two sentences briefly explain the origin and purpose of the financial statements prepared at the end of a fiscal period and the budget which leads to the preparation of an estimated balance sheet and income statement.

The projection of the business results to a point three months, six months, or a year in advance enables the directing heads of a business organization to take the necessary steps to increase sales, reduce costs, and plan policies for the future. The comparison of estimates with actual results enables tendencies of favorable character to be taken advantage of, while forces adverse in character may be controlled or overcome in their entirety.

At the outset of our study, it was stated that the starting point of budget preparation was the determination of the desired minimum profit. The preparation of an estimated profit and loss account enables the budget officer to assemble the budget estimates in a logical order for the purpose of ascertaining whether the objective of minimum profit is likely to be attained. Manifestly, the estimated profit and loss account must be revised monthly as the actual results disclose how closely the budget estimates are realized. Hence, as the fiscal period draws to a close, the estimated statement of profit and loss approximates to a greater degree the final statement of actual results. It will not be necessary to prepare such estimated statements in all cases, be-

cause there are many instances in which the budget itself supplemented by the necessary revisions will furnish sufficient means for proper administrative control. In other cases, the use of graphic charts reflecting tendencies may furnish adequate information for the accurate guidance of management.

2. *The sales section.*—The starting point of the estimated profit and loss statement is, therefore, the sales estimate. As indicated earlier in the discussion, volume figures are always desirable, if they may be conveniently secured. There is likely to be little difficulty in securing volume data in those instances where homogeneous product is manufactured or in trading businesses where one or two lines of product only are dealt in. The sales estimate shows the total sales anticipated for the period together with the amount of sales returns and allowances. The estimated amounts of the sales returns and allowances will be based on past experience and future prospects, and, in some instances, questions of business policy are involved.

While these factors should have received their due consideration at the time the sales estimate was prepared, an additional opportunity of checking the estimates for the current period against the results of the previous period should not be lost sight of. Comparative figures of sales are not always even an approximate guide. The transition from silent motion pictures to talking pictures was accomplished in a relatively short space of time and resulted, in many

instances, in increased revenue of substantial proportions. The gross sales less the aggregate amount of the returns and allowances constitute net sales, upon which amount all percentage ratios are subsequently calculated.

A sheet of analysis paper containing parallel money columns, with space reserved at the left for the names of the accounts, will be suitable for the purpose of showing the results. A total column at the end will permit the cumulation of the results for the year. Such a form is given in Figure 24. In most organizations, it will not be necessary to prepare this on a monthly basis, although such is desirable.

3. *Cost of sales.*—The second section of the estimated profit and loss statement is designated as the cost of sales section. The elements or factors in this section will differ in a manufacturing business from those in a trading concern because, in the first instance, it will be necessary to compute the cost of manufacture, while, in the second instance, the goods purchased for sale are disposed of in their original condition. The more complicated situation will be dealt with first.

The cost of sales obviously will include, first of all, the cost of the finished goods on hand at the beginning of the period and which will presumably be disposed of before newly manufactured goods are sold. The actual cost of the finished goods on hand is, of course, determined from the initial inventory of

ESTIMATED PROFIT AND LOSS STATEMENT

Budget Period—From———To———

	January		February		Total	
	Budget	Actual	Budget	Actual	Budget	Actual
Units Sold						
Sales						
Cost of Sales:						
Inventory at Beginning						
Purchases						
Direct Labor						
Manufacturing Expense						
Less: Inventory at End						
Cost of Goods Sold						
Gross Profit on Sales						
Selling Expense:						
Advertising						
Commissions						
Total Selling Expense						
Selling Profit						
Administration Expense:						
Total Administration Expense						
Profit from Operations						
Other Income:						
Dividends						
Total Other Income						
Total						
Deductions from Income:						
Total Deductions from Income						
Net Profit for Period						

FIGURE 24—A FORM OF ESTIMATED PROFIT AND LOSS STATEMENT

finished goods. To this amount will be added the cost of the goods to be manufactured during the ensuing period, determined as described below. From the aggregate of these amounts, there will be

deducted the estimated cost of the finished goods on hand at the end of the period. The resultant will be the cost of goods sold. In this instance, also, it will be desirable to ascertain quantities because price levels change, and one object of the budget is to avoid excessive stocks of goods. An increase in the quantity on hand will mean a lower turnover and, consequently, a less efficient use of capital investment, with increased carrying costs for storage and handling.

The stock of goods on hand at the end of the period is ascertained from the sales and production budgets. These show, respectively, the quantities and amounts expected to be sold and produced each month. It will be evident that if 1,000 units were on hand on January 1, and if the production schedule for January called for the manufacture of 5,000 units, the total available will be 6,000 units. If, from this sum, the sales estimate of, say, 4,500 units is deducted, there will be 1,500 units on hand on February 1. Similar calculations on the basis of values will produce the inventory of finished goods at cost on February 1.

The next step in the process of ascertaining the cost of goods sold is that of determining the cost of goods to be manufactured during the period. The elements in this calculation are assembled from the production budget. The cost of raw materials on hand at the beginning of the period is ascertained from the inventory. The materials budget reveals

the qualities and amounts to be purchased and the quantities and amounts to be consumed in manufacture each month. Obviously, the estimated inventory of raw materials on hand at the end of each month is the resultant obtained by subtracting the amount to be consumed in manufacture, as shown by these production estimates, from the aggregate of the inventory at the beginning plus the purchases for the month.

To the cost of materials consumed will be added the anticipated labor cost as set forth in the labor budget. There will then be added the cost of the manufacturing expenses as shown by the budget estimates. Since the production schedule has called for the manufacture of a definite quantity and value of goods each month at a definite estimated cost, the value and quantity of the work in process at the end of each month are ascertained readily.

Reference has been made to the fact that the cost accountant often allocates to unit costs certain elements of expense which may be included in some other group for budget purposes. To illustrate, in calculating a machine-hour rate for the use of a certain machine, one of the elements will be the space factor. The cost of the space factor will include an estimate for taxes or rent. These items will ordinarily appear in the "deduction from income" section of the statement of income and profit and loss. It is believed that the more important consideration is the factor of expense control which the budget furnishes,

rather than the determination of a unit cost which includes elements of indirect expense which the accountant must, in any event, apportion to product as overhead expense, upon a rate more or less arbitrary. Whatever plan is finally adopted in any given case, attention is, nevertheless, called to the necessity which may arise in practice of reconciling the two points of view in order that the work of the budget officer may be facilitated.

It will be evident that the calculation of the cost of sales is much easier in a mercantile or trading business, since three factors only are involved; viz, the initial and final inventories and the purchases of goods necessary to fill the anticipated orders as shown by the sales estimate.

When the cost of goods sold is deducted from the net sales, the remainder will be the amount of the gross profit on sales.

4. *Selling expense*.—The sales expense budget to which will be added the expense as shown by the advertising budget will next be entered on the estimated profit and loss statement. The desirability of classifying the significant items making up the total of sales expense need not be stressed. Unless this is done, comparison with actual results may not be so advantageously made. This is particularly desirable in view of the tendency for distribution costs to increase. In this group, consideration must be given to three classes of expense: (a) those which are variable, such as commissions and shipping expenses; (b)

those which are partially variable which increase volume but not in direct ratio, such as salesmen's salaries, traveling expense, sales promotion expense; (c) those which are non-variable, such as administrative salaries and rent. The total of selling expense is then deducted from the gross profit on sales, producing the selling profit.

5. *Administration expense*.—The general and administration expenses are ascertained from the expense budget previously described. This will comprise the usual items of salaries and expenses of officers and general office salaries and expenses. The detail corresponding to the significant factors in this class of expense should be shown. It should also be noted that the grouping as between non-variable, wholly variable, and partially variable expenses applies with equal force in this section of the expense budget. If the expense budgets include a credit and collection budget and the welfare and personnel budgets, the amounts should be set forth in this section of the estimated profit and loss statement. The aggregate of the general and administrative expense is deducted from selling profit and the profit from operations is arrived at.

6. *Other income*.—Other items of income arise in business operations and these amounts, if of regular and recurring nature, are grouped under this classification. Interest earned may be an important item in this group. The cash budget shows the amount of cash expected to be on hand at the end of each month.

If the balance at the bank is drawing interest, a fairly accurate amount to be added to the budget for this factor may be ascertained.

During recent years, many corporations have withheld the distribution of surplus profits in the form of cash dividends and have declared stock dividends. This practice permits the reinvestment of surplus profits in the business, or the investment in securities of other companies. Income from investment in securities and any profit realized from the sale of such securities purchased for temporary investment swell the total of other income.

Recent studies have disclosed the fact that 25 per cent of the dividends paid by our corporations have been distributed to other corporations. Hence, items in this group may be of great importance in the final net profit carried to surplus. In some cases, as high as 12 per cent of a manufacturing corporation's income dollar has been derived from revenue other than that received from sales. In other cases, the earnings from interest and dividends or from profits realized from sales of investment or speculative securities have served to offset a smaller amount of loss from primary operations.

The interest earned upon notes receivable and cash discounts on purchases appears in this section of the income statement. Assuming the same conditions as to available funds, the cash discounts of the current period will probably bear the same relation to purchases as in the prior period. If the organization re-

ceives any other items of income of recurring nature, the amount thereof should be included at this point. Items, such as license fees for the use of a patent, royalties and rent income are examples. The total of these items, when added to net profit from operations, constitutes the total income from which deductions of regularly recurring non-operating expenses will be made.

7. *Deductions from income.*—Perhaps the principal item included in this group will be the amount of the cash discount deducted by customers on the settlement of their accounts. If credit conditions are likely to remain the same during the budget period, the ratio of discount to sales which obtained in the prior period may be employed. The cost of fire protection, including the wages of watchmen and fire insurance premiums, will be entered in this section. Other insurance costs will logically be deducted at this point. Taxes, exclusive of income taxes, are proper items under this group although the cost accountant may wish to allocate taxes and rent to cost of production. For budget purposes, it is important to know what each item of expense amounts to and, hence, taxes and rent paid are more properly included as specific items.

Interest paid on borrowed money is another important item in this section. From the financial budget, it will be possible to determine how much money must be borrowed from banks, and the time during which the loans will run. The rate to be paid

will depend upon conditions in the money market, the credit standing of the borrower, and his skill in negotiating with bankers for the lowest rate. The total of the deductions from income, when subtracted from the total income, will result in net income, or profit or loss for the period.

8. *Net profit analysis*.—After the estimated profit and loss statement has been prepared as outlined in the foregoing sections, the executives should subject the statement to intelligent analysis. It will be recalled that the minimum net profit considered essential in view of the capital invested and the hazards involved was the starting point of the budget. Now that the completed estimate has been assembled, an opportunity is afforded for careful consideration of the interrelationship of the sales, production, and financial budgets. The management has before it the amount available for dividends and surplus. It is at this point that the final budget is approved, modifying the estimates as may be necessary, especially in regard to sales, unit prices, and managerial policy.

It may be necessary to revise the budget completely. If the sales do not show the desired minimum profit, it may be necessary to reduce the volume by eliminating either unprofitable business or business that carries no profit or a loss. A decision to lose business or volume, even where clearly known to be unprofitable, is a hard one for either a manufacturer or trader to make. On some occasions, con-

ditions in the trade may force a business concern to carry unprofitable lines. In other cases, a decision not to cut off unprofitable business may be based upon some indirect factor or consideration, which would be found to be of little value if there had been an honest examination of the facts. In any event, a careful and exhaustive study of all the factors should follow an unfavorable estimated profit and loss statement. Obviously, any change in the sales program will be followed by corresponding adjustments in all other budgets including perhaps the plant and equipment budget. On the other hand, if the profit and loss estimates shall disclose an increased profit, it is equally important to know why. An analysis will reveal whether the gains are due to higher prices, elimination of competition, some temporary factor of a favorable character, or increased efficiency in marketing or production. There have been instances where favorable estimated operating statements led to unfavorable actual results through an effort to expand unwisely on insufficient capital.

REVIEW

- Are financial statements increasing in importance? Why?
- Why is the sales section of the estimated profit and loss statement of great importance?
- Discuss the significance of the "other income" items.
- Explain the value of "net profit analysis."

CHAPTER XVII

ESTIMATED BALANCE SHEET

1. *The advantages of the estimated balance sheet.*
—The final approval of the budget estimates is based upon the disclosures of the estimated profit and loss statement. When once the extent and character of the operations of the business have been determined, some estimate may then be made of the financial condition to which these will lead. If the underlying budgets have been carefully prepared, what is the necessity of preparing a balance sheet showing the financial condition? Is it not sufficient to know that the anticipated profit is likely to be secured and that there will be cash in hand at the appropriate times to meet obligations as they fall due?

Perhaps it may not be necessary in every case to complete the financial picture, but, when it is realized that inventories are created by production and sales programs, that the volume of sales and the collection of accounts are vitally related to the cash position, that the ability promptly to pay purchase invoices depends upon the fluctuations of the cash account, that both long-term and short-term financing are dependent upon balance sheet disclosures as well as the showing made by the income statement, the de-

ESTIMATED FINANCIAL STATEMENT

(Year or Month)	Estimate		Actual	
	Amount	%	Amount	%
Cash				
Notes Receivable				
Accounts Receivable (less reserves)				
Other Current Assets				
Total Current Assets				
Fixed Property Investment (less reserves)				
Intangible Fixed Assets				
Deferred Charges				
Total Capital Employed				
Notes Payable				
Accounts Payable				
Other Current Liabilities				
Total Current Liabilities				
Long-Term Liabilities				
Capital Stock—Preferred				
Capital Stock—Common				
Surplus Appropriated				
Surplus Unappropriated				
Net Worth				
Total Liabilities and Capital				
Net Working Capital				
Working Capital Ratio				
Volume of Business (in units)				
Units per \$1 of Plant Investment				
Sales				
\$ of Sales per \$1 of All Capital				
\$ of Sales per \$1 of Plant Investment				
\$ of Sales per \$1 of Inventory				
\$ of Sales per \$1 of Accounts Receivable				
Gross Earnings				
Per Unit				
Expenses				
Per Unit				
Operating Profits				
Per Unit				
% on All Capital				
Miscellaneous Loss and Gain				
Interest Cost				
% on Borrowed Money				
Surplus Net Profits				
% on Net Worth				
Dividends—Preferred				
Dividends—Common				
Dividends—Other				
Surplus Adjustments				
Net Change in Surplus				
Book Value of Common Stock				
% Earned on Common Stock				

FIGURE 25—AN ESTIMATED FINANCIAL STATEMENT FORM

sirability of preparing an estimated balance sheet for each period will not be argued further. Fortunately, the materials for the preparation of a balance sheet as shown in Figure 25 are readily available, and less difficulty will be encountered in most instances than is usually the case with the profit and loss statement. The following items are discussed in the order of their ease in determination and do not necessarily follow the balance sheet arrangement.

2. *Plant and equipment*.—The initial balance sheet reveals the individual items of plant and equipment. The budget of plant and equipment indicates the character and cost of the additions and retirements planned during the period. It is ordinarily difficult to predetermine exactly the course of new construction, as delays of one sort or another are to be expected. If the scheduled additions should not be made, there will, of course, be a corresponding decline in accounts payable or an increase in cash. The reserves for depreciation and surplus adjustments and the surplus will be reduced by the same amount as the reserve for depreciation is increased. Other adjustments may be necessary, such as retirements of assets on account of inadequacy or obsolescence; this involves a reduction of the reserve for depreciation by the same amount as the asset account is credited.

3. *Inventories*.—The inventories of raw materials, work in process, and finished goods have been ascertained in preparing the estimated profit and loss account. Excess inventory constitutes one of the un-

economical uses of capital most frequently found in practice. The review of the balance sheet results affords an opportunity of seeing that inventories will not be out of balance with sales and production requirements. This is particularly important, when it becomes necessary to revise the sales estimate downward. The constant check which the monthly balance sheet provides may result in large savings, if, in fact, it does not actually avoid loss. Lack of proper production control will tend to bring about an increased investment of work in process. Inventories should be carried at "standard cost" prices. This means that increased overhead expense due to shutdown must be charged off against the profit and loss account. If excess overhead is absorbed by the product, the inventories of work in process and finished goods will be overvalued correspondingly.

4. *Notes and accounts receivable.*—The estimate for these items starts with the amount at the beginning of the period. From the sales budget or from the estimated profit and loss statement, the amount of net sales is ascertained. From the cash budget, the estimated cash collections from customers is found and, if this sum is deducted from the aggregate of the two items previously mentioned, the resultant will be the total of notes and accounts receivable on hand at the end of the period. The proportion between notes and open accounts will ordinarily remain fairly constant. During periods of business depression, the ratio of notes may increase. If so, the

holder must either have sufficient cash resources to carry his customers for a longer period or must arrange to discount them. If at the same time he is a borrower at his bank, the latter may not wish to accept too large an amount for discount, because the contingent liability of the endorser may become actual.

The management must not overlook the important fact that an increasing volume of business requires an increase in working capital to carry it. This additional capital must be raised either through an increase in owned capital or borrowed capital or through the facilities of a discount or finance company. This will be particularly true, if any of the sales are to be made on the installment plan or for longer terms of dating. Knowledge of the necessity of financing secured in advance will insure better terms or a plan most suitable to the conditions which prevail.

5. *Cash*.—The balance of cash at the end of each month has presumably been ascertained in the preparation of the financial budget, because it was precisely for this purpose that this cash budget was prepared. If the business is carrying bank loans, it will be required to maintain adequate balances against the loans, usually not less than 20 per cent. The prudent financial executive will not stretch his line of credit to the limit. When the volume of business indicates that this condition is approaching, additional financing of permanent character is indi-

ated. The temptation to expand is frequently too alluring to be resisted.

While banks should not make it too easy for a business to borrow, yet, on the other hand, banks are in business to make money. When the first sign of trouble appears on the financial horizon, bankers become apprehensive and, not infrequently, panicky. The business executive who overextends may find his loans called at an inopportune time and, if he has stretched his outside credit to the limit, he may discover that he has his banker as a partner if, in fact, the banker may not have control of the business. And yet, in spite of this well-known principle of finance, only too many financial executives find themselves entangled in such a situation. On the other hand, excessive cash balances are costly, because they may not always be invested safely to produce enough to earn a reasonable return. There is no ready-made rule to apply in this situation.

Since the experiences of 1920, prosperous corporations have followed the practice of increasing the amount of cash balances and short-term or easily convertible investments. Instead of distributing earned surplus wholly in the form of cash dividends, cash has been conserved through the process of declaring stock dividends. The importance of a sound cash position cannot be overemphasized. Unless the requisite resources can be provided, the volume of business and the plans for expansion must be modified.

6. *Deferred assets*.—These include prepayments of bank discount, advertising, insurance premiums, organization expenses, promotion expenses, and the like. Usually, little difficulty will be encountered with items in this class. Insurance prepaid may be calculated by adding to the value of the unexpired premiums the new expenses incurred during the period, and by deducting from the total the expired proportion. Some concerns arrange to have all policies expire on the last day of the fiscal year, in order to facilitate calculations for balance sheet purposes.

7. *Other assets*.—If a sinking fund is required under the terms of a bond indenture, provision must be made to provide means for payment. Goodwill or other intangible assets may appear, but these offer no problem for the budget officer. If any portion of an intangible asset is to be amortized, the proportion will be charged against the surplus or against the net profits.

8. *Fixed liabilities*.—The financial budget has already taken into consideration any increase or decrease in this item. If funded debt is to be retired through a sinking fund operation, there is involved merely an entry between the accounts on the balance sheet. New financing will be reflected through an increase in fixed liabilities, offset either by an increase in cash, a reduction of floating debt, or refunding of obligations already in existence. It is obvious that a mortgage due in the current year becomes a current liability, and provision for it must be made. In

connection with funded debt, it must not be overlooked that the indenture may provide for the maintenance of a definite ratio between current assets and liabilities.

The money obtained from funded debt is presumably invested in fixed assets. Care must be taken to see that the financial structure of the undertaking is a balanced scheme. Fixed liabilities draw interest and impose a fixed charge upon the earnings. Hence, part of any increase in fixed assets should, if conservative methods are followed, be financed out of accumulated earnings or surplus. During the past decade, many corporations have taken advantage of their prosperity by retiring high-interest bearing obligations and substituting lower-interest bearing debt, or have issued common or preferred stock in place thereof. In many instances, also, advantage of existing conditions was taken to retire debt altogether.

9. *Current liabilities*.—These comprise notes and accounts payable. The amount at the beginning of the period is known. To this sum will be added the expenditures of the period for all purposes. From the aggregate should be deducted the amount of cash to be disbursed as shown by the cash budget, leaving as a resultant the notes and accounts payable on hand at the end of the period. Usually, there will be a fairly uniform ratio existing between notes and accounts payable, but circumstances may alter this relation. For example, an increase in the volume of business results in an increase in open accounts re-

ceivable and inventories. This may be financed by increase of bank loans and, if the increase is continuous, the bank loans will constantly expand, thus altering the ratio between accounts and notes. Also, notes payable may be issued to creditors in settlement of open accounts.

10. *Deferred credits*.—These constitute liabilities from the standpoint of the balance sheet. They usually represent income that has been collected in advance of service to be delivered. Thus, rent received in advance is a deferred liability for the unexpired portion of the rental period. Usually no difficulty is encountered with items in this group.

11. *Capital stock*.—The partner's capital account in a partnership or the proprietor's capital account in a sole proprietorship represents the net worth of the business organization. In the case of the corporation, however, the net worth is represented by the aggregate of the capital stock account and surplus. If the program of expansion determined upon requires additional amounts of owned capital, the sums to be issued will depend upon financial and market considerations that do not fall within the scope of this volume. Suffice it to say, that there are fashions in securities, and investors will prefer at one time bonds, and at another, stock.

The financial executives must take the wise precaution of securing funds for permanent investment in anticipation of their employment. In some cases, permanent assets have been acquired out of funds in

the treasury and, later, when sales of securities were attempted for the purpose of raising funds to replenish the treasury, either there was a poor market or no market at all, or, if a market could be found, it was only at a prohibitive cost. If the treasury has been drained for purposes of permanent investment, and if it may not readily be replenished, the shortage in working capital which results may seriously cripple the business.

12. *Surplus*.—To the surplus at the beginning of the period will be added the net profit as shown by the estimated profit and loss statement. Dividends are distributed out of surplus. Manifestly, it is unwise to pay out all of the surplus in the form of dividends, but how much should be retained in any given case depends upon the special circumstances. Appropriations from surplus are made for reserves of various kinds, such as the sinking fund reserve, a reserve for dividend equalization, or a reserve for plant additions. Since these involve merely a transfer from the surplus account to the appropriate reserve account, they do not affect the budget.

REVIEW

Is an estimated balance sheet necessary in every case?

Why is the inventory item watched closely?

From what source are the figures on cash secured, in the preparation of the estimated balance sheet?

Discuss the value of determining financial ratios and standards in advance.

CHAPTER XVIII

USE OF GRAPHS IN BUDGETING

1. *Graphic charts in business.*—Visualization, or graphic method of presentation, long the reliance of the architect and engineer, has been applied to economic and business problems. In view of this origin, it was but natural that engineers should take the lead in adapting and introducing charts in business. However, many of the charts which have been made are too technical for the business man to interpret. The statisticians, also, contributed to the increased employment of charts, but they went a step further and published many books on the subject, some of which served to throw an air of mystery around the use of these very valuable tools.

Many business men regarded only the technical aspect of charts and, therefore, decided to retain their mental charting, on the basis of monthly or annual figures, rather than take a chance on a device which needed so much explanation and interpretation. Generally speaking, charts were left severely alone except by the statisticians and a few bolder individuals who investigated and found them not only valuable, but interesting.

If there is any phase of business machinery which

needs simplification, it is that of "charting." Any worth-while chart is simple; simplicity is the first test, and if a chart fails to qualify on this point, it should be discarded. As for interpretation, a properly drawn chart explains itself. There is no trick to interpretation; there are no implications or hidden inferences on a good chart. It is a vivid presentation of a condition which the business man cannot escape, if he will but look.

2. *Graphic charts or figures.*—Pictorial presentation appeals to the eye when properly done. In a general way, the motion pictures are the best example of this appeal and they embody certain principles inherent in charting. A chart must present something of interest to the executive. It must possess continuity, the requirement of simplicity and directness which has already been discussed, and it must have a central theme.

As opposed to these qualities of charts, figures are invariably considered drab, prosaic, and uninteresting, except to the trained accountant. And few accountants, to say nothing of the man untrained in handling figures, can mentally weigh the different series of figures encountered in a business without resorting to averages, totals, or some other summary method that buries the diversities and trends which are absolutely essential to proper control.

This does not mean that figures are no longer needed in operating a business. Charts are but a pictorial representation of the underlying figures

that are themselves a quantitative expression of the facts of the business. To put it concretely, charts are labor-saving devices, or rather, mental-effort-saving devices prepared for the management.

It should be understood that the interpretation of figures by an executive is through the formation of a mental concept, which is the counterpart of the graphic chart. Since charting, or its mental equivalent, must be done, presentation of the data through the medium of a properly prepared chart saves this mental wear and tear on the executive and leaves him free to spend his effort on decisions necessitated by the facts shown. Graphic presentation enables the executive to devote his time and energy to his real function of making decisions.

3. *Budgetary control simplified by charts.*—The first phase of Budgetary Control, which consists of the determination of what results are desired, has already been covered in the text. The second phase, the enforcement of these decisions through control of conditions and factors so that the desired results must logically take place, leans heavily on charts and other forms of graphic presentation.

Loss of enthusiasm for budgetary control has too often been due to the limited time or ability of the higher executives to interpret the figures brought to their desks regularly by the budget system. Figures, figures, and more figures have been countered by depositing the reports in a convenient drawer for study at a more leisurely moment—which never arrives. To

get the continuing coöperation of executives, the budget must save their time, not add to their already overburdened schedule. Any executive worth his hire simply will not wade through a maze of figures or reports. It is for that purpose that he employs accountants, statisticians, and budget men.

No intelligently conceived budget runs counter to these facts, which is tantamount to saying that a system of charts or graphs is an essential part of any scheme of budgetary control.

4. *Trends more important than quantity.*—The full significance of the words of Oliver Wendell Holmes, "Where we are is of less importance than the direction in which we are going," is just now being realized by business. To determine the direction or trend of the business is the real problem of the management. Specific or isolated facts are of no value in finding the answer to this question. Even a series of figures is of little value unless plotted in a graph. The use of a graph or chart permits an accurate determination of the present trend, and, what is more remarkable, enables projection of the present trend into the future when proper safeguards are used.

An illustration of this point will aid in fully grasping it. The mere statement that sales for the past month were \$1,000,000 is meaningless from a control standpoint. The additional information that sales for the year before were at the rate of \$1,000,000 per month, and for the year before that at the rate of

\$1,200,000 per month, and so on, for previous years, is not fully appreciated unless chartered. A chart of this information graphically shows the steady decline, and points unerringly to the necessity of new methods, new management, or ultimate failure.

5. *Ratio chart is used to compare current trends.*—The ratio chart, which is an automatic per cent of change chart, is the best for comparing current trends between dissimilar quantities. The advantages of this chart can be best demonstrated by plotting the same data on a chart with the arithmetic scale which measures quantitative differences, and on the ratio scale which measures per cent of change.

Some executives are prejudiced against ratio charts, which statisticians usually refer to as logarithmic charts, since the vertical scale is based on logarithms. When such prejudice is encountered, the same results may be obtained by calculating the per cent of change and plotting the derived figure. However, this increases the work so much that it is wiser for the executive to take the time and trouble necessary to understand and use the ratio chart.

As a matter of fact, the ratio charts used by business are only semilogarithmic, the horizontal scale being on the arithmetic basis. The true logarithmic chart is more complicated, and should be used only by engineers or highly trained statisticians. In no case should it be used to present data to an executive not trained in its intricacies.

As will be noted by referring to Figure 27, a

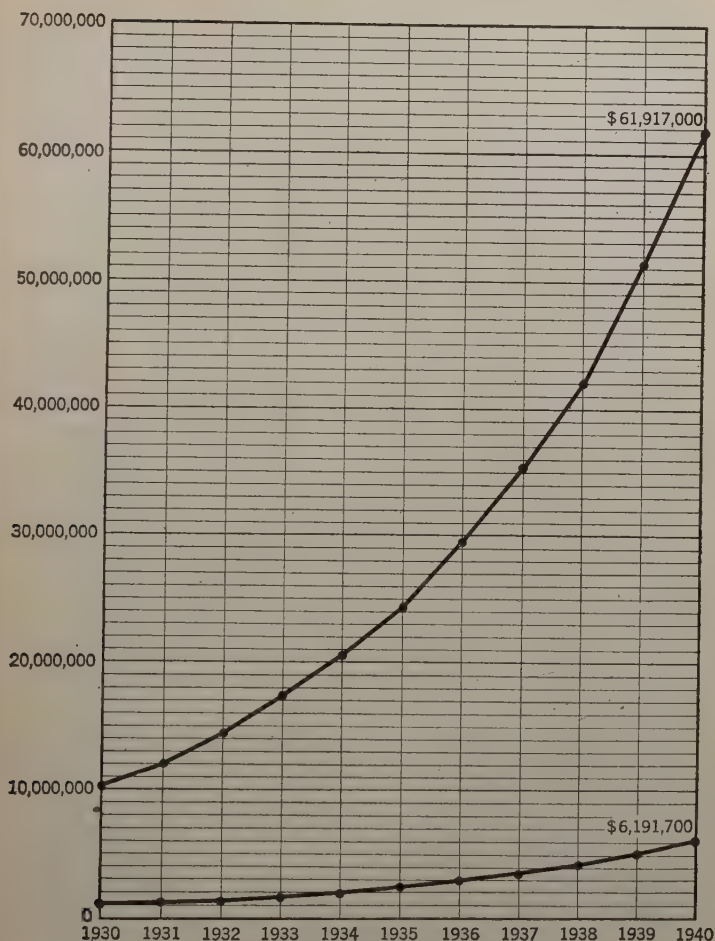


FIGURE 26—ARITHMETIC SCALE CHART

Initial sales volume \$10,000,000, in one subsidiary, and \$1,000,000, in the other. The annual rate of growth is 20 per cent in both companies, although the chart appears to indicate a more rapid growth in the larger one.

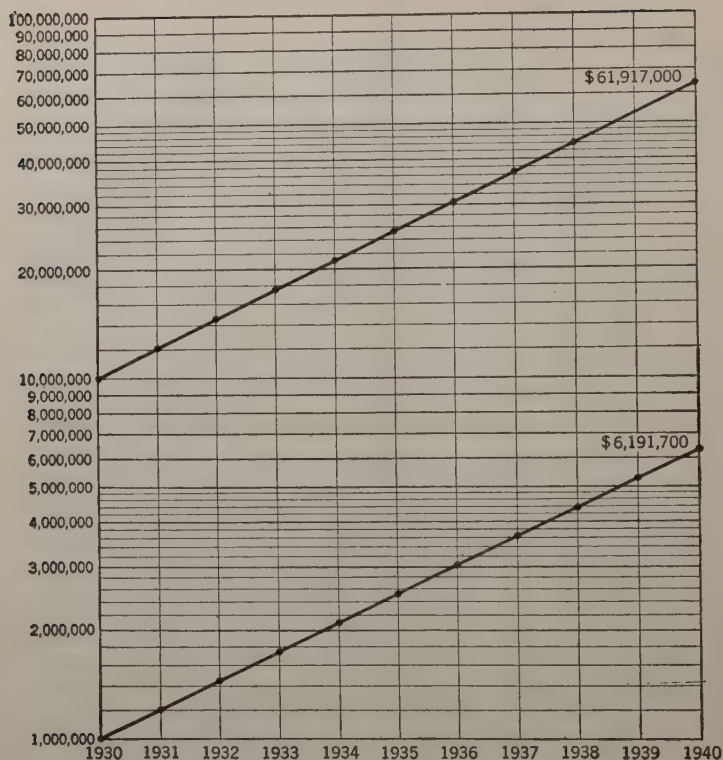


FIGURE 27—RATIO SCALE CHART

Same data as in Figure 26, plotted correctly to show the uniform rate of growth.

straight line on a ratio chart indicates a steady uniform growth on a percentage basis, and parallel lines on ratio charts indicate the same rate of increase or decrease. It should be noted, too, that the vertical distance between the lines on a ratio chart has absolutely no significance, whereas, in the arithmetic or ordinary chart, it measures quantities.

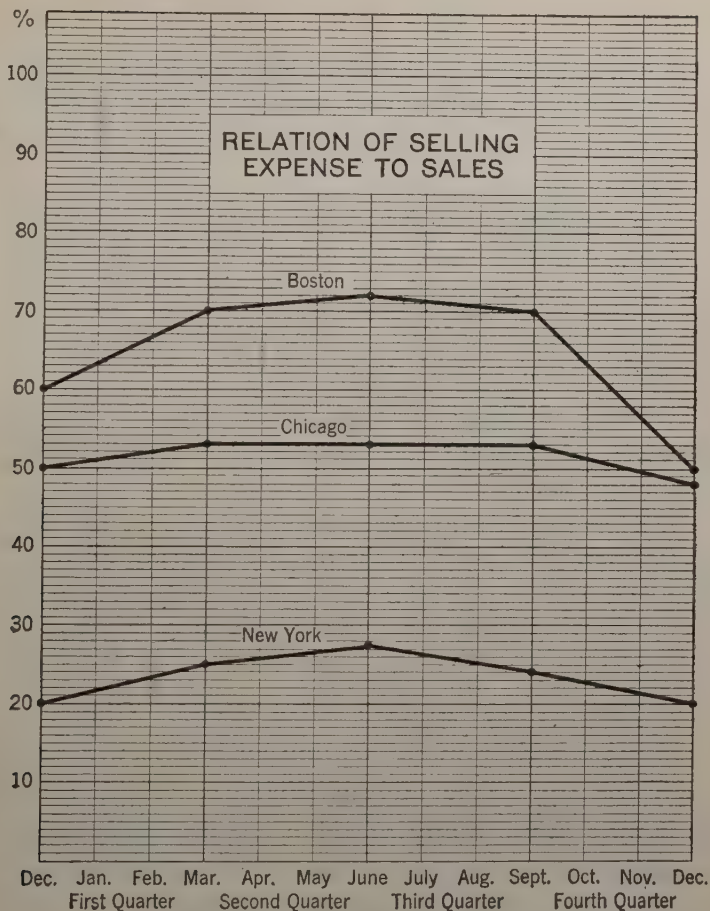


FIGURE 28—PERCENTAGE CHART

Comparison chart using arithmetic scale with data plotted on a percentage basis.

6. *Arithmetic chart most widely used.*—The arithmetic scale, which is the one in common use, is recommended where feasible because most executives are

familiar with it. Due to this very fact, it is often used in preference to the ratio chart, even though the latter would be more direct and quicker, by converting the quantities to a percentage basis, as illustrated in Figure 28.

It is obvious from previous discussion that the use of the arithmetic scale to compare trends is misleading when the quantities are plotted directly on it; yet, it is frequently used for this purpose by the uninformed. This should be guarded against, since the arithmetic scale shows absolute or quantitative changes. It has its greatest use in showing changes in a single series of data.

Within the limitations mentioned above, the arithmetic scale also lends itself to presentation of budget facts by the use of the bar chart, as in Figure 29. This chart is so simple and direct that further discussion will be unnecessary.

7. *Defects of typical sales chart.*—Charts are used more widely in connection with the sales budget than for any other budget purpose. And, strange as it may seem, many of them are so faulty in construction that they are worse than useless, because they are misleading. The chart illustrated in Figure 30, although widely recommended and used, is statistically poor and is presented for avoidance rather than adoption. A brief discussion of it will point out its deficiencies.

The sales quotas line represents the total of the quotas which will be assigned the various sales divi-

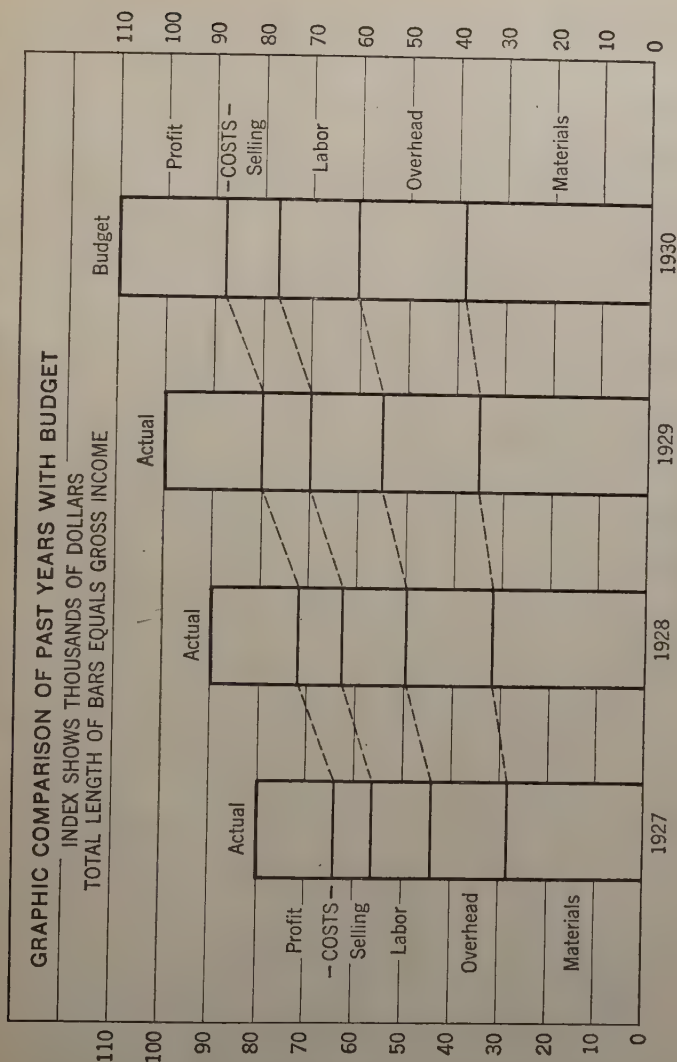


FIGURE 29—BAR CHART

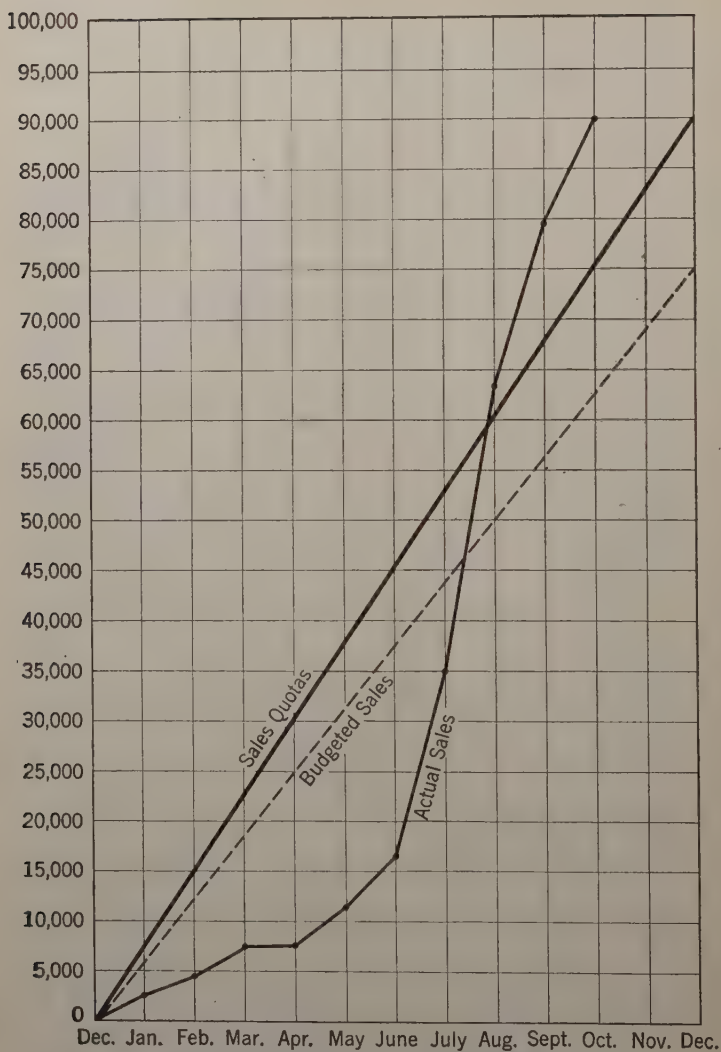


FIGURE 30—CHART THAT IS STATISTICALLY POOR
This chart is presented for avoidance rather than adoption

sions, territories, and salesmen, it being the practice of this company to set the sales quota slightly above the budget figure.

The budgeted sales line, which is shown as a straight line, is the great weakness of the chart. A comparison of this line with the actual sales brings this out forcibly. This budget sales line was constructed by drawing a line from zero to the estimated total sales for the year, thus indicating the same sales and the same growth in sales each month, which is not logical.

8. *Recent improvements in control charts.*—This shortcoming is avoided and yet sales are plotted as a straight line in a patented chart put out by the Graphex Company, Inc., 110 East 42nd Street, New York City. The outstanding feature of this chart, Figure 31, is the varying space allotted to each month on the horizontal scale. The width of the space for each month is determined by a study of past sales. The poor month is represented by a narrow space and the good month by a wide one. This "weighting" of the chart field permits the drawing of a straight line from zero to the sales budget figure for the year. This line intersects each vertical monthly line at a point which is equal to the sales budget from the beginning of the year to the end of the month.

This chart shows the sales trend and permits easy determination of the total sales expectancy. If one draws a light pencil line from zero through the last

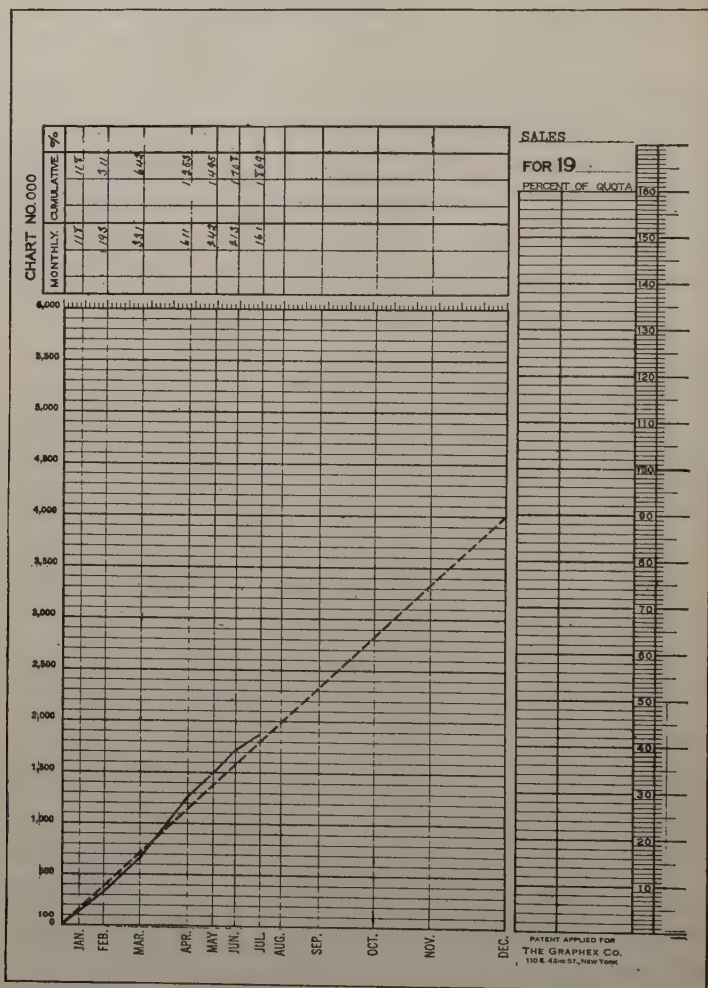


FIGURE 31—IMPROVED CONTROL CHART

month plotted of actual sales until it intersects the December line, the present expectancy for the total year's sales is indicated, based on two factors, the normal seasonal variation of sales and the rate of sales to date.

If this pencil line is extended still farther until it intersects with the vertical line under per cent of quota in the small chart on the margin, the figures in the scale opposite this intersection give the sales rate to date—the per cent of budget performance. It should be noted that this chart is not only patented, but must be specially drawn for each business. The widths of the months and the placing of the per cent line will vary with each business, but after it is once constructed, it allows the projection of the various trends into the future in such a simple way that an ordinary clerk may do the work.

Another illustration of the development of a chart for a special purpose is the control chart, Figure 32, which was developed by T. O. Grisell and presented in his book, "Budgetary Control of Distribution," and published by Harper and Brothers.

Although this chart presents several significant factors, simplicity, vividness, and the proper relationships have been observed. The initials "B. P. I." which may confuse the reader, stand for buying power index. This index is calculated in advance for the territory, so that the management may measure results against potentialities as well as costs. One

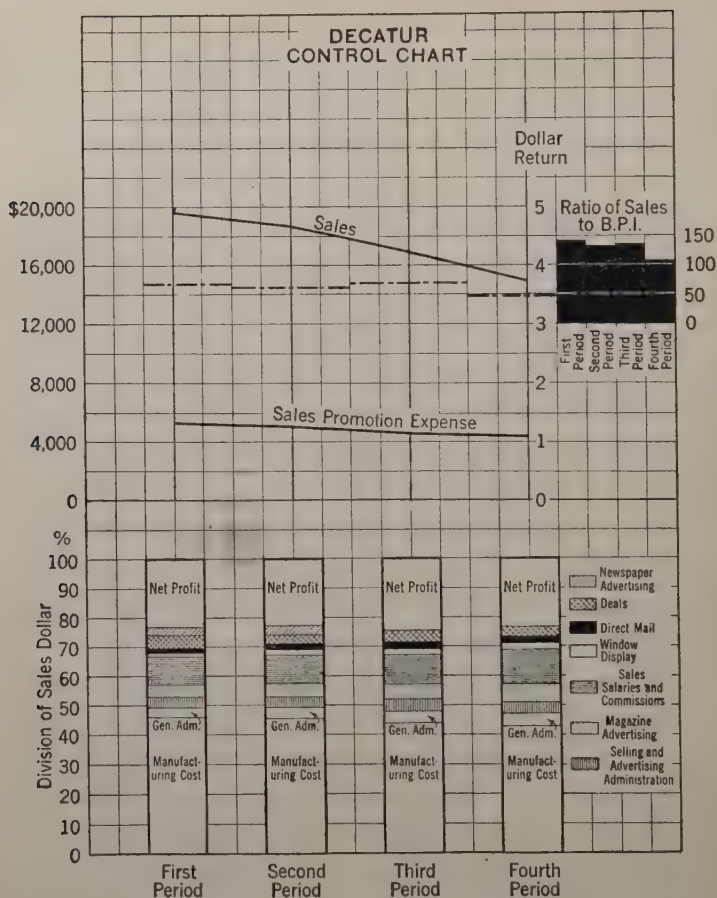


FIGURE 32—CONTROL CHART TYPIFYING SIMPLICITY, VIVIDNESS, AND PROPER RELATIONSHIPS

comment on the conclusions which can be drawn from this chart will be to the point, even though our interest is primarily in the chart. The drop in the sales line shows what happens when a sales territory is

"milked," which is indicated by the drop in the sales promotion expense line. Other specialized charts used in budgetary control, where specific discussion is necessary, are shown in the various chapters.

9. *Other forms of graphic presentation.*—It is not to be inferred from this discussion of charts that they constitute the only method of graphic presentation. On the contrary, any method which easily and quickly conveys to the management present conditions or future trends should be used. However, any method which departs from the old familiar line charts is fraught with danger. It may be misconstrued, it may be misleading, or it may be confusing.

10. *Limitations to charts.*—Charts are not an end in themselves; they are the means whereby the end, executive decisions or action, is attained. They are facilitating devices to be used, not worshiped.

The chart is man-made; its character and quality depend on the individual who determines its make-up. This means that it takes more than a draftsman to construct a chart; it takes more than an accountant. The individual in the budget system charged with the responsibility of passing on the graphs to be used and the methods to be employed must have a full appreciation of the problems involved in the business. He must know a great deal about the executives who will primarily use these charts. He must know what should be shown to these executives and the way to show it, so that they will be forced to draw the proper conclusions.

REVIEW

What has been the principal reason for failure to make wider use of graphic charts in business?

Discuss the value of charts to the executive. Can they be used effectively in a system of budgetary control?

What value for forecasting is a chart based on past performance?

What type of chart is best for comparing current trends between dissimilar quantities?

Discuss the essential qualifications of the individual empowered to pass on graphs to be used.

CHAPTER XIX

VARIATIONS AND ADJUSTMENTS IN BUSINESS

1. *The budget is a goal to strive for.*—The budget has been referred to as a standard, as a goal for future performances. Its established figures are predicated upon a study of future conditions. It represents neither a day dream nor an air castle, but the result of a careful systematic plan for the entire business. The future is planned not with a view to possibilities but probabilities. The department managers charged with the execution of budgeted plans do not say, "This is what we hope to do," but "This is what we are going to do." Every operation is carried on with the eyes of the entire organization fixed on the final figure of profit accomplishment. This is the proper attitude for achievement. It is the attitude of the successful in any pursuit.

Suppose, however, that the goal set becomes impossible of attainment. A budget, it is true, is based upon probabilities. However, prudence dictates that the business be prepared for possibilities. No business man considers it probable that his premises will be destroyed by fire, but he recognizes fire as a possibility and carries insurance against it.

Variations in sales may result from a great variety

of causes. It is the duty of those planning sales to anticipate, in so far as possible, the month to month variations in sales volume and to give expression to them in the sales budget. However, there is no infallible method of accurately predicting future influences on sales volume. A sales manager whose predictions were absolutely right nine times out of ten would command an exceedingly high salary. But even with an unusually high degree of accuracy, the business man faces a greater risk than he insures against in the case of fire, storms, theft, and other hazards. In the case of loss due to a sudden decline in sales, there is no insurance except careful preparation on the part of the business man for just such an eventuality.

2. *Budgets must be flexible.*—When sales volume suddenly declines or increases, or when prices fall, the budget of the entire business must be adjusted immediately or unnecessary losses will occur. It is upon the basis of anticipated volume, that plans are made for every department in the organization, and the budget should be flexible enough to provide new standards for the new conditions.

3. *Reason for changing budgets.*—In general, the causes for budget adjustments fall into two classifications:

- (a) Causes outside the control of the business
- (b) Causes within the control of the business

The first of these is likely to be the more seri-

ous because the duration and intensity of the disturbing force is, from the standpoint of the business management, entirely uncontrollable. The business must be adjusted to it no matter how difficult the process may be. It is impossible to list all the occurrences of this nature which might take place, but the following are some of the more common:

- (a) Decline in demand due to
 - 1. General business depression
 - 2. Unanticipated style changes
 - 3. Weather
 - 4. Competition
- (b) Increases in demand
- (c) Raw material shortage
- (d) Labor shortage and labor trouble

4. *Decline in demand.*—Business forecasting, as previously stated, is far from being an exact science. Hence, while the business man may bring his best efforts to bear in attempts to forecast with certainty the recurrence of the periodical depressions in business, these efforts may be unsuccessful. The business, which has failed in an attempt to forecast declines in demand due to general depression, may find itself in as bad, if not a worse, condition than if no forecasting had been attempted, because reliance has been placed upon the forecast and all plans have been laid toward a definite result which did not materialize. Secure in a belief in the reliability of

the forecast, the business man may fail to notice the signs of an approaching storm.

Of course, it is not suggested that a business man cease forecasting simply through fear of making a mistake. But it is wrong to forecast the probable without having in mind the possible. Having established a forecast on the demand for the products or service sold by the business, provision must be made for keeping the forecast correct. In the case of an annual forecast, such revision ought to take place at least every three months and should cover the remaining nine months of the period. To avoid duplicating such studies, the best practice is to use the information gained in a revision of a forecast for each additional three months so that there is at all times a forecast for a year ahead.

5. *Unanticipated style changes.*—In some lines of business, the forecasting of style is all important. This is especially true where style influences or controls the type of raw material in the finished product. A sudden unanticipated demand on the part of men for leghorn and panama hats comes little short of tragedy for the makers of straw hats. Straw hats are made of straw braid, an imported product; in fact, semifinished hats are often imported from Switzerland, Italy, or Japan and are on hand at the beginning of the season.

In all clothing lines, the style factor is most important. Failure to anticipate the whims of the public may mean a serious loss. In such lines, the problem

of establishing budgetary control is a difficult one. Watchful waiting for some indication of style precedes any definite budgeting. However, buying and manufacturing must take place prior to the selling season, hence, the manufacturer sends out his salesmen several months before the season begins in an attempt to get as many orders for the season's dating as possible so as to have definite orders to work on. In general, these early orders are the best indication of what the seasonal demand will be and, as soon as enough come in to give a clue to the popular style trend, manufacturing plans are laid and operations begin.

If mistakes are made, the only adjustment that can be made is to dispose of accumulated merchandise at the best prices obtainable and attempt to salvage as many orders as possible by offering the accepted styles. Occasionally, a competitor will come forward with a model which captivates public fancy and requires an immediate change of plans so that this new demand can be met. Hazards such as these require an abundance of working capital to finance rapid changes and to absorb losses. Adjustments in these cases are more often along the line of skillful merchandising than internal adjustment. The material is on hand, and it must be sold; hence, rapid price adjustment and intensive sales effort furnish the only way of keeping down losses.

6. *Adjustments due to weather.*—The weather directly affects the market for many products and

indirectly for others. Prolonged cold weather permanently injures straw hat and sportswear sales. The loss here is largely in repeat orders because, for example, wearers make one hat do for the entire season and the adjustment is made by ceasing factory operations and thus curtailing loss. Indirectly, weather may affect any business. For instance, poor crops injure the purchasing power of the farmer, and lack of purchasing power results in slowing up all industries directly or indirectly supplying his wants. This is ultimately reflected in an increase in unemployment of industrial labor.

Manufacturers of fertilizers and manufacturers of farm implements, mail-order houses and others who sell to the farmer, follow weather conditions throughout their sales territories and often send out their own investigators to supplement government reports on crop conditions. As these reports come in, manufacturing operations are adjusted accordingly. Here, again, we have the budget dependent upon a condition impossible to forecast and necessitating a policy of watchful waiting as far as possible. It is always cheaper to carry inventories in the raw material state than to have a large stock of finished goods, because of the larger amount of capital tied up in the latter.

7. *Adjusting to meet competition.*—In most industries, not only must competition be considered with others manufacturing or selling similar products or services, but due regard must be had for the portion of the consumer's dollar being claimed

by products of an entirely different nature. A fad or sudden desire for some one thing may so engage the public, that sales in many other lines will suffer because the consumer has neglected his usual wants.

Competitors not only woo the consumer with different styles, but with price reductions. Presumably, many competitors suffered at Henry Ford's hand because of his price reduction on Ford Model "T" cars, which was made possible by the large output brought about by the uniform good quality of his product. Later, however, the newer and more attractive models of competitors caused the Ford Company to close down its plant, in order to effect what was perhaps the most costly adjustment in design ever known to the business world. It took several months for the Ford Company completely to change its plant, and a longer period to get back to a full production schedule.

Price reductions on the part of competitors usually require immediate changes and adjustments somewhere in the budget. In the face of price reduction, there are three alternatives: maintain the same prices; meet the competitors' price; undersell competitors.

Adoption of any one of the three requires budget adjustment. The goodwill of any business will not long stand against the buyer's desire to get the most for his money. Quality being equal, the consumer buys where he can get his goods the cheapest. To maintain prices in the face of competition means loss

of volume and more money spent for advertising and sales effort to convince the buyer of the superior quality of the goods offered. Actual improvements, or at least new features, must be added to the product if even a fair volume is to be maintained. Of course, if it is known that the competitor is selling at a loss, it may be that this policy is the wisest. As soon as the price cut is known, a careful study must be made to note its possible effects and the complete budget revised accordingly, so that losses can be kept at a minimum.

Where it is decided to meet competition by selling at the same level as the competitor, the chief adjustments are concerned with the diminution of profits caused by lowered selling prices. No change in volume is likely to occur except in so far as reduced prices may have increased the market by bringing in a new class of purchasers. This increase, if any, will be split among all sellers and, unless price reductions have reached large proportions, they will not be sufficient, in an individual case, to call for much adjustment. The real adjustment comes in the attempt to cut down costs to preserve the profit margins reduced by the new sales prices. How far this can be done and still maintain the quality of the goods depends upon the efforts already made in this direction. Every means possible should be exerted and departmental budgets gone over with a fine-tooth comb to find means of lowering costs.

Plans for plant expansion, if any, should be recon-

sidered to determine whether or not they should be temporarily laid aside to prevent unwise expenditure of current resources.

If the business enters upon a price war with competitors, it commonly does so in an effort to force the competitors to compromise and to come forward with offers of price stabilization. It may be that the management plans so to increase volume as to maintain aggregate profits through the greater volume and through the savings affected by large-scale production. If this is the plan adopted, it will mean that prices are to be maintained at the low levels. In any event, greater volume should be anticipated and adjustments made in operating schedules to take care of the increase. Due to the lower selling price, the same process of careful studying of expense budgets should be undertaken. Energetic work is required of the sales department for, if greater volume is not immediately achieved, a large loss will result.

8. *Increased demand.*—Up to this point we have discussed the necessity of adjusting the budget to meet unanticipated decrease in demand. It is now necessary to consider the effect of sudden increase in demand beyond budget expectations. With the advent of radio broadcasting, electrical supply companies found themselves taxed to the utmost to supply the demand for parts and supplies which could be used in the construction and operation of radio sets. Many of them began immediate expansion programs. Aside from the fact that tool manufacturers

and others quickly seized the opportunity to develop a profitable side-line, thus creating greater competition before such expansion programs were completed, many organizations did not have the working capital or the credit to carry on business in the volume contemplated. One such organization was obliged to sell its entire radio supply business to a competitor at a loss, largely because expansion had been undertaken without regard for the demands on the financial resources of the company.

A business normally operates at less than its "practical capacity" and practical capacity is usually about 85 per cent of possible capacity. Hence, in the event of increased business, it is always possible to revise a budget to take care of some part of any unexpected increase. However, when the business attempts to operate at greater than its practical capacity, it is to be expected that there will be a drop in efficiency, for the practical capacity limit is one which has been established on the basis of the most efficient operation. Increased maintenance, idle time, and repair expense as well as overtime labor costs must be anticipated. Increased direct labor and direct material costs can be easily estimated, but, in the case of manufacturing expense, it may be necessary to work out a new rate for estimating such costs in view of the greater volume and the lessened efficiency.

9. *Adjustments due to raw material shortages.*—Few businesses today buy on anything but a "hand to mouth" basis. For that reason a shortage in raw

material may catch a concern unawares and cause serious difficulties. Such shortage of material may result from adverse weather conditions, as, for instance, in the case of cotton, or from government restrictions upon exports as was the case a few years ago in rubber. Material is usually available in the case of shortage, but the prices soon reach proportions which call for an immediate adjustment if profits are to be maintained.

Advances in selling prices cannot be immediately effected and, for the time being, losses usually occur. Cash disbursements for materials become higher, requiring an adjustment of the purchase budget and also of the treasurer's cash budget. Purchases may be reduced somewhat in quantity to make it easier to make prompt payment, but, pending an adjustment of sales prices, little can be done to avoid loss. When sales prices are increased, the estimate of sales must be revised, for increased prices in most lines will be followed by loss of volume because customers either do not buy or will purchase substitutes. This, of course, involves a revision of the budget all along the line.

10. *Adjustments due to labor shortage and labor trouble.*—Labor shortage is usually that of skilled labor and makes itself evident in higher wage rates. In such situations, an attempt is often made to place unskilled labor in positions where skill is required. This is usually a shortsighted policy, for the losses through inefficiency, spoiled work, and instruction

time usually exceed the higher price which must be paid to secure skilled labor.

The shortage usually occurs at times of great activity and is particularly difficult to handle because the whole organization is keyed up for peak production and time for instruction of unskilled labor can be ill afforded.

Labor troubles cannot always be foreseen because of the human element involved. They frequently paralyze the organization and loss cannot be avoided. It is only through a development of the proper relationship of management and labor over a period of years that such unfortunate occurrences can be avoided.

Higher labor rates, like high raw material costs, must be passed on to the buyer through higher sales prices. Pending such adjustment, the budget must be changed. Even when sales prices have been correspondingly adjusted, a business, which has been computing its departmental overhead budgets as a percentage of direct labor cost, will probably need to adjust its rates accordingly.

11. *Adjustments due to controllable causes.*—Theoretically, at least, when the business is operating under budgetary control, there should be no internal causes which may seriously affect the budget. But a business is subject to all the frailties and weaknesses of its management. Mistakes occur which are purely mistakes in management and which may hinder the carrying out of the best laid plans. Internal

causes of adjustment, unlike those causes outside the control of the business, are usually eliminated through the process of adjusting the weakness which the budget has brought to light.

Faulty wage-payment plans, either in the factory or in the sales department, represent one type of mistake which may require adjustment. One such case which the author recalls had to do with the marketing of a product on the installment plan, selling for \$100. Salesmen had previously handled only one product, a \$200 product also sold on the installment basis. Salesmen worked on a straight commission basis getting 20 per cent on sales. It was expected that a good volume would be secured on the new product since a new market was being created. The sales of the new product were good at first, but then fell off, and the management sought for an explanation. Finally a salesman disclosed it. He stated that it took just as much time and effort to sell a man the \$100 product on the installment plan as it did to sell the \$200 product. In fact, the \$200 product being the older was somewhat easier to sell as it was better known. On the former, the salesman made \$20, on the latter \$40. Why spend time on the new product? The management saw the point and did two things; it raised the price of the \$100 product to \$150 and placed it in the hands of a separate group of salesmen. They could have secured the same result perhaps by raising the price as they did and allowing a 30 per cent commission.

Mistakes in production planning and routing are details quickly made apparent and readily corrected. Collection policy and sales terms to customers sometimes need correction. It will be readily seen that internal difficulties do not present the serious problem presented by the various uncontrollable causes first discussed.

12. *Conservation of working capital.*—Any failure in distribution, in fact, any interruption in the process of production, is likely to have an immediate effect upon the cash position of the business. The cash position of the business depends upon maintaining the proper balance between income and outgo. If sales drop, or if deliveries cease from any cause whatever, it requires the instant adjustment of schedules all along the line to prevent the tying up of cash in inventories. Raw material purchases must cease except as contracted for. The factory should be put on reduced time and forces of unskilled labor reduced, while half-time schedules may perhaps prevent loss of skilled labor and gradually help in the liquidation of accumulated raw material. By no means should operations be continued to a point where the business has all of its cash tied up in inventory.

13. *Difficulties in raising capital.*—A business which had planned to raise funds through stock sales in November, 1929, would have found no market for its securities. Financial difficulties of this kind may put a temporary stop to the carrying out of plant and

equipment expenditures and postpone them to a time when they can be financed. This emphasizes the importance of establishing contingency reserves for this type of expenditure and shows the advantage of financing out of earnings. Fortunately at times when it is difficult to raise money through security sales, business is usually in or soon to be in a depressed state so that the plant and equipment will not be needed.

Depressed conditions in the security market are, as a rule, followed by periods of easy money, a condition which encourages the sale of bonds, and a business which had planned to sell stock may find it more convenient to raise capital by issuing bonds. If the management does not desire to have a permanent debt, the bonds may be made convertible into common stock or may be made redeemable so that when conditions are better the change from borrowed to owned funds can be made.

14. *Periodical revision avoids hasty adjustment.*—More and more the practice of bringing up the entire budget for frequent revision is becoming popular. Businesses which construct a budget every three months for a new quarterly period a year ahead, and thus have a budget for a year in advance at all times, also follow the practice of checking over the entire budget every quarter and noting the necessary revisions. These revisions at regular intervals keep the whole organization constantly on the alert for changes which are likely to affect the budgets, and

these changes find expression in the suggestion for budget revision.

One business follows the practice of sending each department head, at quarterly intervals, a report of performance to date compared with the budget, together with a copy of the budget for the balance of the year. Each department head notes on this form any changes he would make and the reason therefor. These are studied by the budget officer or by the budget committee and, if adopted, the department head is notified to change his department budget accordingly.

15. *The philosophy of control.*—Constant comparison of actual results with planned results is the essence of successful control. A budget does not always represent the best that may be done under the circumstances, but the result which to the management seems to carry the best possibility of accomplishment. A live organization seeking to accomplish that result is quite likely to do better and achieve greater profits than anticipated. The establishment of impossible goals or quotas has no place in the business budget. It discourages rather than encourages and causes the whole idea of budgetary control to fall into disrepute. The budget must be possible of attainment. Those working to accomplish the budgeted result must be made to realize that it is possible. Budgetary control or control through a budget is brought about through the coöperative effort of all who have a part in the business. It is

a tool not only of the management, but of the most humble employee, for in modern business anything which is profitable to the management is profitable to all.

REVIEW

What is the main requirement for a budget?

Discuss the principal causes of budget revisions outside the control of the business.

Outline some of the internal causes of budget adjustment.

What practice may be put in operation to avoid the necessity for a hasty revision of the budget?

CHAPTER XX

LIMITATIONS OF BUDGETARY CONTROL

1. *Advantages outweigh disadvantages.*—It may seem strange, after an exposition of the budgetary process, to devote a chapter to the limitations of budgetary control. Nevertheless, for those who are not acquainted from actual experience with the advantages as well as the limitations of the budget, a word of caution is necessary. It will not weaken the argument for budgetary control to point out its disadvantages, because no system, procedure, or institution is adversely affected in the last analysis by a frank recognition of its shortcomings. In the case of budgets, the advantages far outweigh any disadvantages, but mention of the latter will serve to show the dangers to be avoided.

2. *Misuse of the term "budget."*—It is desirable to note first of all that the term "budget" is extensively misused in the language of business. It is used to designate such widely divergent things as a method of installment selling by a department store, a stock-selling campaign by a large public utility holding company, and the creation of habits of thrift by savings banks. Recreation is budgeted; time is budgeted; education is budgeted; and later when the plans

are promptly forgotten or are not carried through the "budget" idea bears the burden of the failure.

Even within the ranks of business, where the budget is used, and thought to be understood, there is often a misconception as to its purpose. The budget is often thought of solely as an expense cutting device with entire disregard of its constructive value. Such a one-sided viewpoint is fatal to the success of any budgeting plan.

3. *The budget is not a substitute for good management.*—It is just as serious a mistake in the opposite direction to expect too much from the budget. Concerns with excellent budget systems have failed, or have encountered the financial difficulties which the budget is designed to avoid or overcome. The budget is merely a mechanism or tool of management, and budgetary control, that is, the close control made possible by a good budget, is not an end in itself but simply one of the means by which an executive more easily attains the desired goal of profit and success.

4. *Budgeting has had too many friends.*—From another angle, budgeting has been handicapped by too many friends, paradoxical as this statement may seem. Many of these advocates of the "new control" have been blessed with good intentions, but little versed in the fundamentals necessary to make the budget a success. The score too often has been 100 per cent on enthusiasm, and a minus quantity on practicability. Budgeting has been extolled to the skies by these well-meaning advocates and impossible

promises of performance have been made so often that many business men have lost faith in it. Some abandoned their attempts at budgeting under the impression that their business was different and that it did not lend itself to this method of control; while others were satisfied with a partial system covering only certain phases of the operations. As pointed out in the early part of this volume, the budget is a mechanism specifically designed for an individual business and the principles must be applied to suit the conditions in each business, and it must grow from within. It is the philosophy of budgeting, the broad aspect of budgetary control, which is important, and it must be a gradual development to be successful. It cannot, as a rule, be superimposed on the executive side of the business; the executive must grow into it.

Looking into the future, the greatest danger confronting the art of budgeting is that technicians will shroud it in mystery or will attempt to make it so complicated that the executive will be afraid of it and view it as a thing apart, as something for the accountants and budget men to play with, but with little direct connection with his own duties. Again emphasizing points previously made, the simplest practicable budget is the best budget, as the budget's real value is its effect on the executive and not its accounting or mechanical perfection.

5. *What will the budget cost?*—In fact, one of the real dangers in budgeting is the tendency partially to

duplicate the accounting system and thus increase the record keeping staff. At the very outset, the aims and ends of the budget should be clearly formulated and kept in view constantly. It is so easy to require additional reports and forms from the various departments and employees, particularly in the month-to-month or week-to-week check-up on the budget, that additional help is needed, although the increased work at any one point may be imperceptible.

If the budget and the accounting system are not properly coördinated, budgetary control may prove to be a very expensive proposition, or a luxury which the management may decide to dispense with upon second thought. Like any other facilitating activity, every effort must be made to keep the costs at a minimum. This means that budget procedure must be kept simple and that absolutely necessary reports on performance only should be required; and, meanwhile, perfect coördination and correlation with the accounting system must be planned in advance.

6. *Departmentalization a disturbing factor.*—The very fact that modern business methods require departmentalization presents serious problems in the working of a budget system. The several department heads of a business often think in different terms on the same subject. The sales executive, for example, thinks in terms of specific sales territories, national sales, and exports. As opposed to the primary division on a sales territorial basis, the manufacturing executive, when there is more than one

plant, thinks in terms of plants, and the territory contiguous to them. The location of manufacturing plants may not correspond to the division of sales territory. Further, even if they did correspond at a given time, the same plants do not supply the same territory month after month. Production is shifted from plant to plant on the basis of plant capacity, efficiency, unfilled orders and other factors, especially where transportation costs to the sales territory are a small factor in the final decision. The planning division of the manufacturing department often makes these shifts in an effort to secure the greatest efficiency in production.

These opposing viewpoints, particularly in regard to the changes in sales volume on a territorial basis and the shifting of production on a plant basis, are frequently difficult to reconcile in the budget. Nevertheless, reconciliation can be made by the executive authority of both the sales and the manufacturing and, if the sales estimate is accurate, there should be no more than a 5 per cent spread between it and the manufacturing estimates, due to the perfected methods of cost accounting now so commonly used in manufacturing.

7. *Practical limitations due to personnel.*—Departmentalization affects budgeting in still another way. The budget may actually serve to increase salaries, when not warranted, due to the tendency of many department heads to play safe by placing their expense figures high.

Sales optimism is frequently not discounted sufficiently in the final budget; the sales department and manufacturing department often do not have the same thought as to the possibilities for the coming period, with the result that the higher executives usually favor the sales estimates. Both sides should, of course, be carefully considered. The planning department should be asked to make a separate estimate of possibilities for the manufacturing, and entirely distinct from the sales estimates. Such a procedure furnishes an internal check at the very outset.

In fact, in some cases it has been found advisable to permit the manufacturing division to operate on the basis of its own estimate until such time as the trend of sales shows the sales estimate to be justified. However, this method is not recommended as a general thing, since it is much better to reconcile the viewpoints at the time the budget is formulated even if higher authority is necessary to do so.

It is well understood that acceptance of budget estimates is a prerequisite to the successful operation of any system of budgetary control, yet this acceptance is often sacrificed by revision, and revision is always necessary either during the formulation of the budget or during the period budgeted. Of course, this limitation can be partially overcome by a carefully worked out method of revision, which includes every reasonable effort to secure acceptance of the new estimates by the executive and personnel involved.

8. *Limitations as to comparability within the budget.*—From a management standpoint, the internal costs brought forward in the operation of a budget system must be used advisedly. They are not comparable, as a consideration of cost of sales and manufacturing cost will show.

The average cost of sales, for example, may be \$1.80 per unit for the past month, while the current monthly average cost is \$1.65 per unit. This, of course, is due to the merging of inventory costs and current costs in the cost of sales figure. The original cost of the inventory carried over from the previous month is the disturbing factor as shown in the following simple illustration:

April Inventory	\$1.95
April Production—Current Manufacturing Cost.....	1.65
Closing April 30 (May 1st) Average Cost of Sales	1.80

The cost figures used in checking up on budget performance in this case are as follows:

COST OF SALES (<i>per unit</i>)		MANUFACTURING COST (<i>per unit</i>)	
February ..\$1.95	} By sales districts	February ..\$1.90	} By plants
March 1.65		March 1.75	
April 1.65		April 1.80	

The sales executive is interested only in the first column; the manufacturing manager is interested only in the second; and the higher executives are interested in both; yet they *cannot be compared*, although the attempt is often made by uninformed

executives. That is, an average is often made of the various sales costs by districts, and another average is made of costs by plants, with the result that the averages mean nothing for purposes of comparison.

9. *Flexibility a weakness but necessary.*—The budget must be flexible, yet there is an inherent danger in this very flexibility itself. The term “budget” implies a program, and although departures may be justifiable, to the extent that such departures are made, the budget is weakened. There is a tendency for executives to lose respect for it, if it is so flexible that it appears to be on a purely tentative basis. Particularly is flexibility necessary to link the short-term budget which many concerns use to the regular or long-term budget. The major link in this respect is inventory.

10. *Dangers of revision.*—Furthermore, the revisions necessary to achieve flexibility affect several interlocking factors which center chiefly around inventory, as can be seen from the following discussion.

These factors, at least the principle ones, are sometimes referred to as the five “P’s” from their initial letter. They are: price, product, personnel, policy (sales discount, etc.), and promotion (product promotion). The slightest change in any one of these factors affects all the results as well as the other factors.

11. *Budgetary control vs. administration.*—Perhaps the greatest weakness in industry is the lack of qualified man power. This defect appears more

markedly as the size of the business unit increases. Throughout this volume the budget as an instrument of control has been stressed, but it should be emphasized that qualified administration is the more important of the two. The budget is not a device to hamper or constrict the executive; on the contrary, it should operate as an aid in administration. A budget plan operated without vision is worse than no budget at all.

REVIEW

Discuss some of the misuses of the term "Budget."

What is the tendency as regards costs in the operation of a budgetary control system?

Discuss the effects of departmentalization in the working of a budget system.

Are cost of sales and manufacturing cost comparable in the operation of a budget system?

What are the principal factors which affect budgets?

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